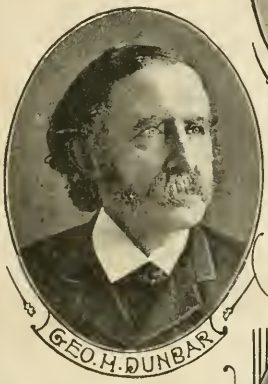
ABRAHAM H. HOWLAND.

MAYOR,
1847-1848-1849-
1850-1851.



GEO. H. DUNBAR

MAYOR,
1857-1858-1873.

GEO. HOWLAND, JR

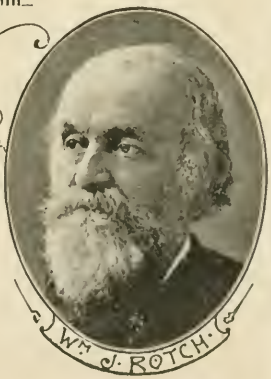
MAYOR,
1855-1856-1863-
1864-1865.

RODNEY FRENCH.

MAYOR,
1853-1854.

J. WILLARD NYE.

MAYOR,
1859.



WM J. ROTCH.

MAYOR,
1852.

PHOTO-ENG. CO. N.Y.

ISAAC C. TABER

MAYOR,
1860-1861
1862.

GEO. B. RICHMOND

MAYOR,
1870-1871-1872
1874-1878.

JOHN H. PERRY.

MAYOR
1866-1867

ABRAHAM H. HOWLAND JR.

MAYOR 1875-1876.

ANDREW G. PIERCE.

MAYOR, 1868-1869.

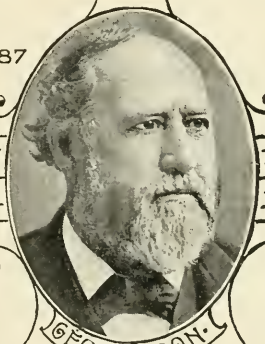
PHOTO-ENG CO. N.Y.

MORGAN · ROTCH

MAYOR.
1885 · 1886 · 1887
· 1888 ·

WALTER · CLIFFORD

MAYOR
· 1889 ·

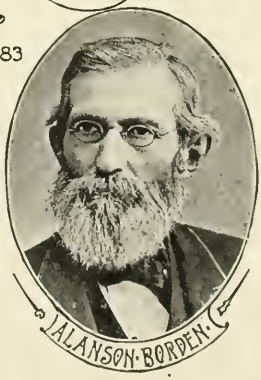


GEO · WILSON ·

MAYOR,
1881 - 1882 - 1883
1884.

WILLIAM · T · SOULE

· MAYOR, 1879-1880 ·



JALANSON · BORDEN ·

· MAYOR, 1877

PHOTO. ENG. CO. N.Y.

NEW BEDFORD.

CHAPTER I.

PAGES OF HISTORY.

MAY 31, 1602, Bartholomew Gosnold, with a small party of Englishmen, sailed from the little island of Cuttyhunk to the main land bordering on the "stately sound" which he called "Gosnold's Hope," but to which has persistently clung the less poetic appellation of a later date, "Buzzards Bay." It has usually been taken for granted that the discoverers sailed up the Acushnet river, and landed on the shore where the city of New Bedford is now located. Of this there may be some doubt, for the narrative of one of the party indicates that the harbors found by Gosnold and his companions were two which are west of the Acushnet river. However this may be, it is certain that they were not far from this locality, and the descriptions given by the English explorers may apply as well to the appearance of our own harbor in those days. It is said by an early historian that "the stately groves, flowering meadows and running brooks afforded delightful entertainment to the adventurers," and one of the visitors, writing of the visit, says that Gosnold was met by a company of the natives, "men, women and children, who with all

courteous kindness entertained him, giving him skins of wild beasts, tobacco, turtles, hemp, artificial strings coloured, and such like things as they had about them." We may be sure that Gosnold traded with the aborigines, for it is stated by the same authority that when the ship returned on the homeward voyage to England, she was laden with furs and other productions of the country, among which is particularly mentioned sassafras root, then held in great esteem in England as a medicine. It was the original intention that the expedition, which sailed from Falmouth, England, on the 26th of March, 1602, should proceed to Virginia and there found a colony. But the voyagers chanced upon an island which is easily identified as Cuttyhunk, one of a small group on the southern coast of Massachusetts, where they determined to settle. That they were fickle, and not adapted to pioneering, is shown by their building a rude fort or house, but abandoning the enterprise when it was yet in its infancy. On the 17th of June in the year in which they reached America they sailed on their return to England.

It has often been asserted that Gosnold and his unstable followers were not the first European visitors to our shores. With some reasonable confidence, the claim is made that they were anticipated six centuries by the adventurous Northmen, who were roving dwellers on the New England coast for eight years, and of whom but little doubt remains that they often visited the shores of Buzzards Bay and its vicinity. The records are meagre, but they are believed to be trustworthy and to warrant the conclusion that the coastwise explorations of the Northmen, although seemingly unproductive of lasting or valuable results, were thorough. Of all the deductions from these records, it is impossible to speak so confidently. Differing widely as they do, some of them must be imaginary, and all are undoubtedly to a great extent fanciful. Yet we do not greatly stretch the imagination if we conjecture that the bold northern sailors navigated the waters of the Acushnet and explored the forests on its shores.

Twenty years after the arrival of the Mayflower at Plymouth, the dwellers in that colony began to look with covetous eyes on the pleasant land which had delighted Gosnold and his companions. The general court of March, 1639, passed an order that the purchasers or "old-comers" should make choice of two or three plantations for themselves and their heirs by the December court. The selections were duly made, and one of them, known as "the

LANDING OF BARTHOLOMEW GOSNOLD. [From a painting by William A. Wall.]

second place," included the locality which is now the city of New Bedford. But not until 1652 was the right acquired by purchase from the Indians. On the 29th of November, 1652, a conveyance was made by Wasamequin, an Indian chief, and Wamsutta, his son, of the territory now included in the city of New Bedford and the neighboring towns of Fairhaven, Acushnet, Dartmouth, and Westport. For this large tract of land, the consideration was as follows: "Thirty yards of cloth, eight moose-skins, fifteen axes, fifteen hoes, fifteen pair of breeches, eight blankets, two kettles, one cloak, £2 in wampan, eight pair stockings, eight pair of shoes, one iron pot, and ten shillings in another commoditie." It has been supposed that this other "commoditie" meant rum and tobacco. On the contrary, it is urged that the purchasers of this land were not afraid to say rum when they meant rum, and that the consideration is as likely to have been something else as liquor. But this aside, the buyers of the territory secured a very fair bargain for their outlay. Wamsutta and his father Wasamequin, or Massasoit, the name by which he is better known, agreed to remove all the Indians from the tract in a year. This was beyond their power, and the Indians remained in partial possession for many years.

Settlers had found their way to the territory before the purchase. If tradition can be relied upon, Ralph Russell, his son John, and Anthony Slocum were the first white men to set up homes in this vicinity. They are said to have come from Taunton in 1650, and to have established an iron forge at Russell's Mills, in what is now the town of Dartmouth. Neither of them was an original proprietor, but on the 9th of March, 1664, John Russell purchased the thirty-fourth part or share of Capt. Miles Standish. John Cooke, who came to Acushnet at about the time the Russells came to Russell's Mills, was an original proprietor, and he was a son of Francis Cooke, a Mayflower Pilgrim. He and John Russell were the leading men in the new town of Dartmouth, and for the first twenty years of its existence were its only representatives in the Old Colony court at Plymouth.

It is evident, from a study of the records, that many of the pioneer settlers in this region came here for the same reason that the Pilgrims came to Plymouth. Many of them were Friends or Baptists, who found life in the Plymouth colony hard to bear because they were not of its dominant religious faith. John Cooke, before

alluded to, was a Baptist preacher, and was highly honored by his townsmen, holding various offices of trust for many years. But the general court saw fit to fine him ten shillings "for breaking the Sabbath by unnecessary travelling thereon." It has been surmised, and not unreasonably, that he was travelling to fulfill an appointment to preach.

The founders of Plymouth colony made one step toward the realization of perfect religious liberty. The founders of the town of Dartmouth made another, which was not less important. We can do no better in this connection than to quote the admirable statement made by Hon. William W. Crapo in his oration at the Dartmouth centennial, Sept. 14th, 1864. He said:

"I have said our fathers were Puritans. They were more than that—they were the Protestants of the Puritans. They were in sympathy with the established government at Plymouth in every thing except the one matter of compulsory taxation for religious purposes. Fully believing in freedom of conscience, they had early conceived a strong aversion to the arbitrary imposition of taxes by the civil power for the support of a ministry with which they were not in unison and over which they had no control. The early records of the town, imperfect and fragmentary as they are, in connection with the history of the colony, plainly tell us how earnestly and even bitterly this controversy was waged, and for how many years it was the source of discord and of persecution. The Plymouth colony court annually apportioned to the town a tax for the support of ministers, in addition to the province tax, but the Baptists and Quakers of Dartmouth were inflexible in their resistance to it, and while the province rates were faithfully met, those for the maintenance of ministers were refused. It also troubled our good rulers at Plymouth that our fathers were so negligent in providing stated preaching according to the established Puritan faith."

The authorities at Plymouth were disposed to force the refractory Baptists and Quakers into compliance. In 1674, the court passed an order in which it took into "serious consideration the tremendous dispensation of God towards the people of Dartmouth in suffering the barbarous heathen to spoil and destroy most of their habitations," expressing the fear that the carelessness to obtain and attend unto the ministry of the word of God "may have been a provocation of God thus to chastise their contempt of his gospel, which we earnestly desire the people of that place may seriously consider of, lay to heart and be humbled for, with a solicitous endeavor after a reformation thereof, by a vigorous putting forth to obtain an able, faithful dispenser of the word of God amongst them, and to encourage him therein; the neglect whereof this court, as they must and, God willing, they will not permit for the future."

This did not frighten the people of Dartmouth, whose ideas of religious duty were quite as inflexible as those of the members of the Plymouth court. They would worship God, but they would do it in their own way, and they would contribute not a penny to the support of a ministry of which they did not fully approve. The struggle between the town and the court lasted over fifty years, but the town yielded never a grain. It reached a culmination in 1724. In 1722, the assembly of Massachusetts passed an act to raise one hundred pounds in the town of Dartmouth, and seventy-two pounds eleven shillings in the adjoining town of Tiverton (then a part of Massachusetts) for the support of ministers whose selection was subject to the approval of the general court. The two towns were the only ones in the province that had not received any Presbyterian ministers, and the action of the general court was to force them into line with the rest. It was provided that the sum assessed should be included in the province tax, and afterwards be drawn out of the treasury. The people of Dartmouth had a town meeting on the 26th of November, 1722, and voted not to pay the money, but to raise seven hundred pounds to protect the selectmen from the consequences of the refusal and to defray the expenses of an appeal to the king. Only five taxpayers protested against this appropriation, which was a large one for those days, and it is worthy of note, as showing the earnestness of the people, that it was met by the tax of that year, and not left to posterity to pay, on the ground that future generations would reap the benefit and must therefore foot the bills. The selectmen refused to assess the tax which had been ordered by the assembly. They were imprisoned in Bristol jail for eighteen months, but the appeal to the king resulted in their release and the order that the obnoxious taxes be remitted. Thus ended a struggle for religious liberty the importance of which can hardly be overestimated. On both sides it was waged by patriotic and conscientious men, but it must ever be occasion for honest pride to the dwellers in Dartmouth and her daughter municipalities that the pioneers within her borders stood firmly and successfully for the principle of complete independence of the Christian church from the domination or guidance of the state.

King Philip's war was the occasion of much distress to the inhabitants of this region. This is not the place to enter into an extended account of that last struggle of the Indians of southeastern New

NEW BEDFORD IN 1812. [From a painting by William A. Wall.]

England to retain possession of their hunting grounds. While it lasted, it was bitter and relentless. It extended over a considerable part of eastern Massachusetts, but it is recorded that no other portion of the territory was so devastated as that on which New Bedford stands. One historian of the time wrote that Dartmouth's "distresses required succour, great part of the town being laid desolate and many of the inhabitants killed; the most of Plymouth forces were ordered thither." Tradition says that the dwelling of every white person within the limits of the town was destroyed. However, after the death of Philip and the dispersion of his followers, the town appears to have quickly recovered.

After the close of King Philip's war, the settlers by the Apponegansett turned their attention to the shores of the Acushnet. Some time prior to 1711, Joseph Russell, son of the John Russell who established the iron forge at Russell's Mills, came here and resided at what is now the corner of County and South streets. Joseph Russell, Jr., who was born at the garrison in Apponegansett in the troublous times of Indian warfare, also came to live near his father. The third Joseph in the line was probably born within the limits of the present city, and to him is generally credited the honor of being its founder. He was a man of enterprise and of far-seeing business ability. He established the whale-fishery at this port, and he built the first sperm oil factory located here. He also was an importer of foreign goods, and carried on a flourishing and extensive business, for those days, until it was ruined by the Revolutionary War.

The village remained an agricultural community for many years. Two or three sloops, indeed, fitted for the whale-fishery, and there was a "try-house" near the shore. Yet the site of the present city was covered by a forest, and the farm houses were at some distance from the river. Not until almost fifty years had passed from the time when the first Joseph Russell located here were any signs apparent of the future commercial and industrial life of the town. In 1760, John Loudon, a caulker, came here from Pembroke and established himself as a shipbuilder. Then came Benjamin Taber, a boatbuilder and blockmaker; John Alden, a house carpenter; Barzillai Myrick, a ship carpenter; Elnathan Sampson, a blacksmith; and Gideon Mosher, a mechanic, but of what trade it is not stated. These men, and others like them, were the pioneers of New Bedford's industries, and we have abundant reason to believe that they

worked wisely and well. Not one of them was rich, even when judged by the limited standards of their day, but they had stout hearts and willing hands and so achieved a measurable share of success.

In 1765, Joseph Rotch came to the village from Nantucket. He had selected the harbor as well adapted to the prosecution of the whale-fishery, and having means and enterprise he embarked in business with vigor, reaping much success. His settlement here gave to the place a great impetus, ensuring its growth and prosperity.

Up to this time the village had no name of its own. That part of Dartmouth which afterwards became New Bedford was then known as the Acushena territory. But it had now become of sufficient importance to make a distinctive name a necessity. Accordingly, upon a public occasion, Joseph Rotch suggested, and the suggestion was adopted, that the name should be "Bedford," in honor of Joseph Russell, who bore the family name of the Duke of Bedford. This, it must be remembered, was in the "Old Colony days," when New England was under the rule of the king, and the compliment was probably then much more apparent than it is now.

Prosperity came to the thrifty and industrious village. Its population grew and its enterprises flourished. The whaling fleet increased, and Bedford seemed fairly launched on a fortunate career. The war of the Revolution destroyed every pleasing anticipation in which the people had indulged. For the time, the whaling industry was ruined, while the young merchants saw not only their prospective gains cut off, but their present prosperity vanish. Some of the inhabitants engaged in privateering, but as most of the business men were Quakers they could not conscientiously do this. The peaceful non-resistants, however, shared in the punishment inflicted upon the place by a large force from the British army. The harbor had become a noted rendezvous for privateers, which brought here their prizes and unloaded their cargoes. In retaliation, Maj.-Gen. Grey, under orders from Sir Henry Clinton, made a raid on the village on the 5th and 6th of September, 1778, destroying property to the value of £96,980, and inflicting a crushing blow on the settlement. The story has been well and exhaustively told elsewhere, and only the briefest summary of it need be given here. On the afternoon of September 5th, the British frigate Carysfort and several

transports appeared in the bay, with between four thousand and five thousand troops. These were landed at Clark's Cove, to avoid passing a fort which guarded the mouth of Acushnet river. The troops marched up the County road to the village, where they burned thirty-four vessels, ten dwelling houses, and about twenty-five other buildings, including a rope walk and a distillery. While the troops were marching up the County road, they fired upon and killed Abraham Russell, Thomas Cook, and Diah Trafford. This was the first blood shed in this neighborhood in the Revolution. The British soldiery marched to the head of the river, through what is now Acushnet, and down on the Fairhaven side, re-embarking on their vessels at Sconticut Neck.

When peace came, the people went bravely at work to rebuild their shattered fortunes. How well they succeeded is told in other chapters of this volume.

After the war was over, the village rapidly grew, and in a few years it was ready to set up for itself as an independent municipality. In 1787, it was severed from the old township of Dartmouth, and for the first time became New Bedford. The prefix "New" was adopted to distinguish the town from another Bedford, in another part of the State. The division of the old town of Dartmouth was strenuously opposed, not only by all the inhabitants of that part of the town which would still remain as Dartmouth, but by many who lived in the territory of Bedford. Some of these latter remonstrants, in a paper which is still on file among the archives of the Secretary of State of Massachusetts, assert that they "have been particularly happy in contemplating the idea of our union with and conjunction to a town of superior consequence, holding rank and place among the principal and most respectable towns in this Commonwealth." This is one of the reasons they assign for opposing the division, while the other is that "at a time of general distress, when the burdens of taxation are heavy upon us, we apprehend that the additional expense of a representative and a whole set of town officers, a grammar school master and the apparatus of public buildings will be more than ten times sufficient to outweigh every advantageous consideration." But such arguments as these were seen to be of little weight in the face of the evident necessity for a division, and on the 23d of February, 1787, the bill incorporating the town of New Bedford became a law. The new town included,

beside the New Bedford of the present day, what is now Fairhaven and Acushnet. The territory of the two latter towns was set off in 1812, the division being the result of irreconcilable political views between the dwellers on the opposite sides of the Acushnet river. Many years after, Fairhaven was divided, and the town of Acushnet was carved from its north end. At intervals slight changes have been made in the town and city lines, but they remain today substantially as first drawn.

In 1847, New Bedford was incorporated as a city. The conduct of its affairs was entrusted to a city council, consisting of a mayor and six aldermen, and a common council of four members from each of the six wards. A school committee of three members from each ward was also instituted, with a board of overseers of the poor and other necessary officials. In substance, the government of the city now remains as at first, though there have been some changes in detail. The list of mayors and the years in which they served the city is as follows:

1847–51, Abraham H. Howland.
1852, William J. Rotch.
1853–54, Rodney French.
1855–56, George Howland, Jr.
1857–58,* George H. Dunbar.
1859, Willard Nye.
1860–61, and to Sept. 29, 1862, Isaac C. Taber.
1862, from Sept. 29; 1863–65, George Howland, Jr.
1866–67, John H. Perry.
1868–69, Andrew G. Pierce.
1870–72, George B. Richmond.
1873, George H. Dunbar.
1874, George B. Richmond.
1875–76, Abraham H. Howland, Jr.
1877, Alanson Borden.
1878, George B. Richmond.
1879–80, William T. Soule.
1881–84, George Wilson.
1885–88, Morgan Rotch.

The growth of the population of New Bedford is exhibited in the following table, compiled from the census reports. It gives also the population of the towns which have been cut off from it.

Year.	New Bedford.	Fairhaven.	Acushnet.
1790	3,313		
1800	4,361		
1810	5,651		
1820	3,947	2,733	
1830	7,592	3,034	
1840	12,087	3,951	
1850	16,443	4,304	
1855	20,389	4,693	
1860	22,300	3,118	1,387
1865	20,853	2,547	1,251
1870	21,320	2,626	1,132
1875	25,895	2,768	1,059
1880	26,845	2,875	1,105
1885	33,393	2,880	1,071

*The municipal year was changed in 1857, and Mayor Dunbar's first term was only nine months.

STONE BRIDGE AND OLD MEETING HOUSE AT THE HEAD OF THE RIVER.

The following tabular statement, compiled from the records of the assessors of taxes, shows the progress of New Bedford in wealth since 1850. The first column gives the number of poll taxes assessed in each of the years indicated. The other columns explain themselves.

Year.	Polls.	Real Estate.	Personal Estate.	Total Valuation.
1850	3,627			$18,632,600
1855	4,325			25,597,100
1860	5,317	$9,157,200	$13,955,700	23,112,900
1865	4,578	8,161,800	12,171,800	20,333,600
1870	5,251	8,774,500	14,221,514	22,996,014
1875	6,226	11,946,600	14,428,674	26,375,274
1880	7,028	13,138,400	13,137,519	26,275,919
1885	8,349	16,293,800	15,104,090	31,397,890
1888	9,424	18,023,700	15,430,647	33,454,347

This brief sketch of the history of New Bedford may fittingly close with a reference to the record of New Bedford in the Civil War. In few cities in the country was a deeper interest felt in the conflict, and scarcely one did more in proportion to its means and its population to uphold the cause of the Union. New Bedford men were among the first to respond to the call for troops, and New Bedford soldiers and sailors faithfully helped fight the battles of freedom until the war had ended. When the first call was made, the City Guards, then included in the Third Regiment, responded at once, leaving New Bedford on the morning of April 16, 1861, two days after Major Anderson had evacuated Fort Sumter. These men were ordered into service for only three months, but most of them afterwards re-enlisted and served through the war. When the subsequent calls were made, other companies were organized, and including these, the men who enlisted in regiments mainly recruited in other parts of the State, and men who enlisted in the navy, New Bedford furnished about thirty-two hundred men for the war, which was a surplus of eleven hundred and ten men over the demands made upon her. It gave one hundred and twenty officers to the military service, and it furnished many officers to the navy. Its city government appropriated and expended on account of the war, $177,000. This was exclusive of money expended for aid to families of volunteers, and afterwards refunded by the Commonwealth, amounting to $125,495.85.

This is a remarkable showing for a city as small as New Bedford was then, and whose chief industry received a tremendous blow

from the war. But we think it was not so remarkable as the work of the women of New Bedford in their appropriate way in aid of the war for the Union. Two days after the first men left New Bedford for southern battlefields, the women of the city had a meeting and organized for the work. How well they succeeded is shown by the record of their contributions for the relief and comfort of the soldiers. The Ladies' Soldiers' Relief Society gave upwards of $20,000 in money; in cotton cloth and flannel, $4000; and in hospital stores, $6000. The Society for the Comfort and Relief of our Soldiers in Hospitals gave an immense amount of clothing and hospital stores, aggregating many thousand dollars in value.

CHAPTER II.

THE WHALE-FISHERY.

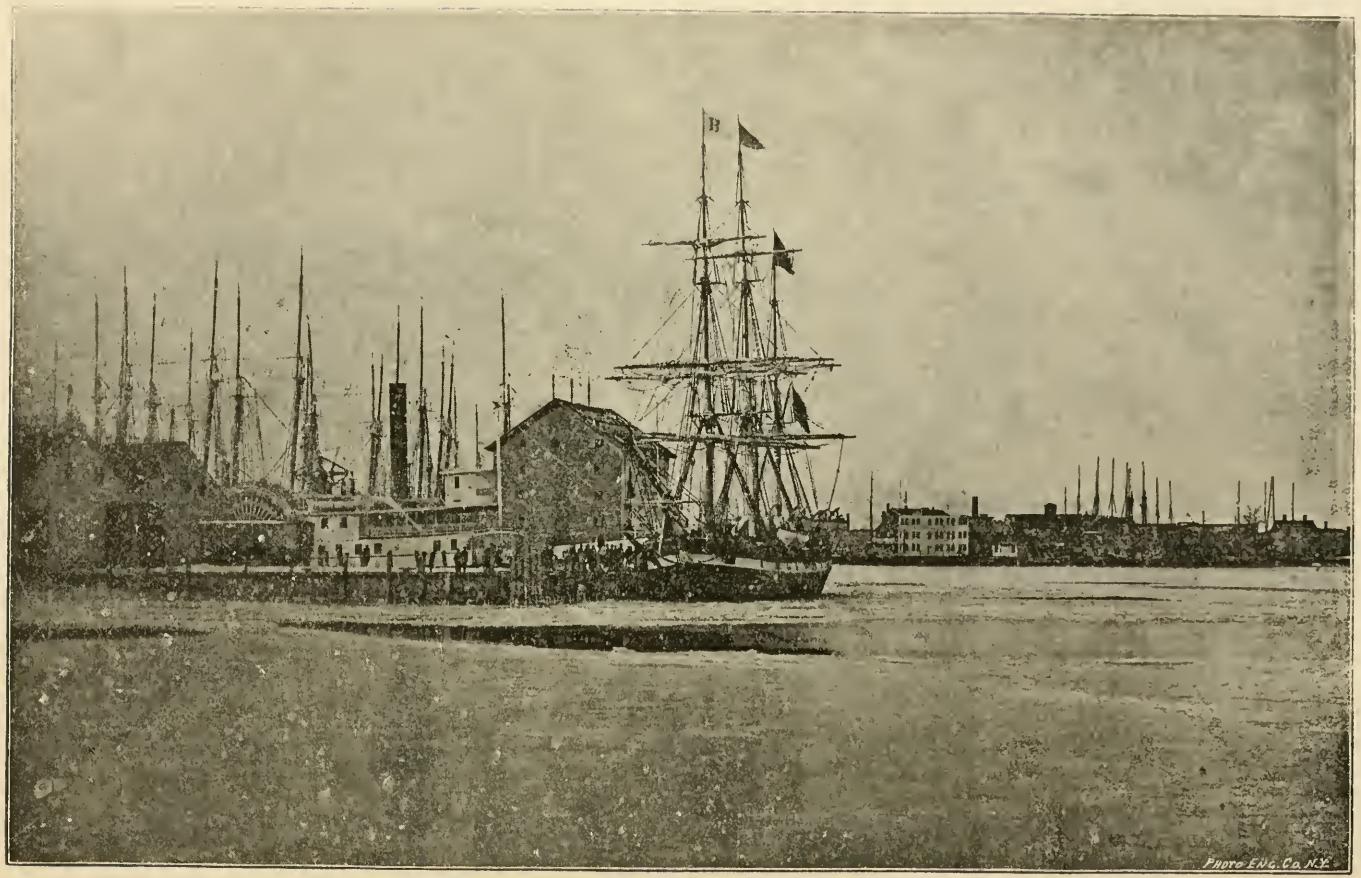
"THE history of the New England whale-fishery is so interwoven with the history of New Bedford during the last century," said Hon. William W. Crapo, in an oration delivered at the municipal celebration of the centennial of national independence, "that they cannot be separated; and no record of the growth and business of our town and city can be complete without it. Our wealth, our population, and our progress have been the fruits of this industry; and our position and fame among the cities of the world is due to its successful prosecution."

The thriving manufacturing city of New Bedford of 1888 is the outgrowth of a settlement of fishermen,—fishermen on a large scale,—who drew to them the mechanics and traders needed to supply their wants and formed the nucleus of the city of today. New Bedford's wealth was brought from the depths of the ocean by her sons, who braved every danger, accepted every hazard, and fearlessly entered unknown regions in pursuit of their prey. Gathered from the ocean, at her own peril, New Bedford's wealth impoverished no other's treasury, and for the distinction of being the wealthiest city of her size in the Union she owes no debt save to her own sons. The Whaling City today, as one hundred years ago, is the home of the great industry. First at the flood tide, she is still first at the ebbing. The discovery of petroleum with the advent of earth oils was a

severe blow to the whale-fishery. With keen foresight the old New Bedford whalemen pierced the future's veil, discerning the inevitable decline of the whale-fishery. Fresh fields were sought for investment, and the capital for mills, factories, and founderies was at once forthcoming. The old whaling port was transformed into a bustling work-shop and her future was assured. Yet today the whaling is by no means the least important of her industries, for in it she leads the world, as she will while a whale remains in the deep. The change was but a manifestation of the enterprise and progress which characterize the New Bedford whale-fishermen.

This whale-fishery, in the prosecution of which New Bedford surpassed all the world and so greatly and rapidly increased her wealth, is of very ancient origin, dating back to the days of Alexander the Great. The Dutch were engaged in the pursuit and Northmen sought the great fish before the voyages of Columbus. In the New World the whale-fishery is contemporary with the settlement of New York and the New England colonies. It was first established along the shores of Long Island as early as 1640. Some thirty years after, came the first whaling expedition from Nantucket, which was undertaken by some of the original purchasers of the island. A whale came into the harbor and continued there three days. The curiosity of the villagers was excited, and, determined to prevent his escape, they invented and wrought a harpoon with which they attacked and killed the monster. This encouraged them to make whaling a permanent business, as whales were numerous about the shores, and the pursuit was soon extensively carried on in small boats. In 1672 the islanders, eager for further knowledge, sent to the main land for whalers from Cape Cod and Easthampton, L. I., to instruct them in the art. By 1715 the people of Nantucket were pursuing the whales upon the ocean in small sloops and schooners, making brief voyages, bringing home the blubber and trying out the oil on the shore. This was in the primitive days of whaling.

In the vicinity of New Bedford whaling probably commenced about 1760. To Joseph Russell, the founder of the city, is attributed the honor of being the pioneer of the whale-fishery, he having been engaged in the business as early as 1755. His calling demanded the use of boats, consequently the earliest settlers of the town were industrious and enterprising mechanics and the earliest settlement was of an industrial more than an agricultural character. In 1765,



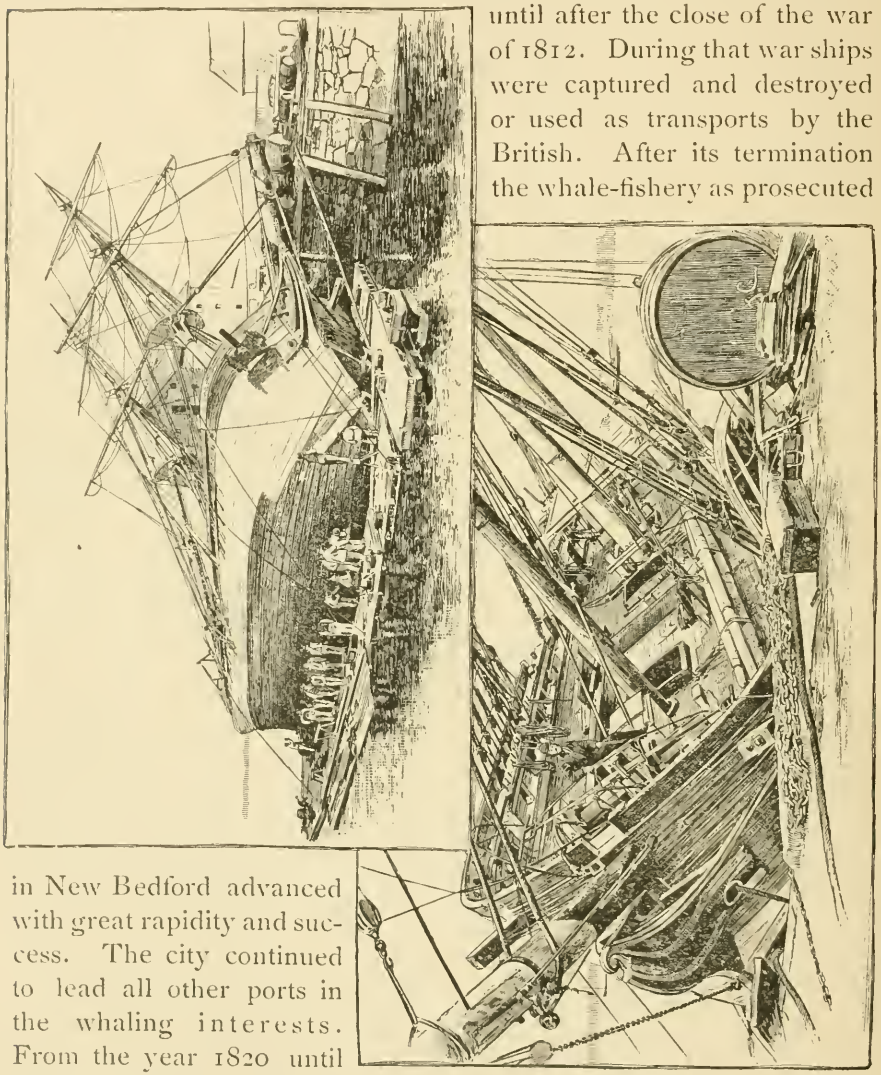
BARK TAMERLANE READY FOR SEA, IN ICE AT PROPELLER DOCK.

Joseph Rotch, of Nantucket, an enterprising merchant of experience and knowledge, selected New Bedford harbor as eligible and advantageous for the prosecution of the whale-fishery and brought to the village an acquisition of capital which had been needed to stimulate the industry. Mr. Rotch purchased land, built ships and sent them out. New Bedford brains designed the vessels and planned their voyages. New Bedford hands built them and then manned them on the sea. Thus were born many allied industries on the land, and refineries and candle factories, with other important branches of business, were established. In the year of Mr. Rotch's arrival four sloops, from 40 to 60 tons burden, were engaged in the business. These small vessels usually sailed in pairs and so long as they kept company the blubber of the captured whales was divided equally among them. The voyages were gradually extended and, in the ten years following, the whaling fleet was increased from two or three small vessels to fifty of larger size. In 1774 New Bedford sent vessels to the Falkland Islands, and it was the enterprise and daring of those whalemen that inspired Edmund Burke's eloquent tribute to the industry in the House of Commons. The War of the Revolution checked the growth of the industry and almost stamped out the business. Joseph Russell lost most of his property and the same may be said of all whose interests were on the sea. Mr. Rotch left the town and remained away during the war. Long before this, New Bedford had outstripped all competitors in the industry and her ships were scattered throughout the world in every navigable water.

"It is a remarkable coincidence," commented Hon. W. W. Crapo in his centennial address, "that the war which had been precipitated in the destruction of tea thrown overboard from the Dartmouth, a ship owned by Francis Rotch of the village of Bedford, should have associated with its close the advent in English waters of the ship Bedford as the first vessel floating the American flag in any British port." The Bedford sailed from New Bedford harbor before the war.

Many difficulties were found after the war in replacing the vessels which had been burned by the British or fallen into disuse and decay. The English government placed a heavy alien duty on oil with the object of forcing the industry to her own harbors. For a time Britain was successful in this, but the persistency and persuasiveness of New Bedford's citizens obtained the privilege of sending

oil to ports of other countries free of duty. The work of developing the industry early in the nineteenth century was slow and difficult, with the many hazards encountered on the sea and the opposition of foreign powers on the land. No marked improvement was manifest until after the close of the war of 1812. During that war ships were captured and destroyed or used as transports by the British. After its termination the whale-fishery as prosecuted



BARK HOVE DOWN FOR REPAIRS.

in New Bedford advanced with great rapidity and success. The city continued to lead all other ports in the whaling interests. From the year 1820 until the year 1857 the city's prosperity and accumulation of wealth were uninterrupted. The whaling industry reached its highest point in capital, in vessels, and in tonnage in 1857. Its fleet of 329 ships and

whaling outfits was worth more than twelve millions of dollars and required more than ten thousand seamen. The largest importations of oil and bone were in 1851 and 1853. The quantities of each with the prices realized from their sale were as follows:

1851.

99,591 barrels sperm oil, at	$1.27½ per gallon	$3,991,980.75
328,483 barrels whale oil, at	.45¼ per gallon	4,682,114.56
3,966,500 pounds bone, at	.34½ per pound	1,368,442.50
		$10,042,537.81

1853.

103,077 barrels sperm oil, at	$1.24¾ per gallon	$4,050,539.56
260,114 barrels whale oil, at	.58⅛ per gallon	4,762,524.77
5,652,300 pounds bone, at	.34½ per pound	1,950,043.50
		$10,763,107.83

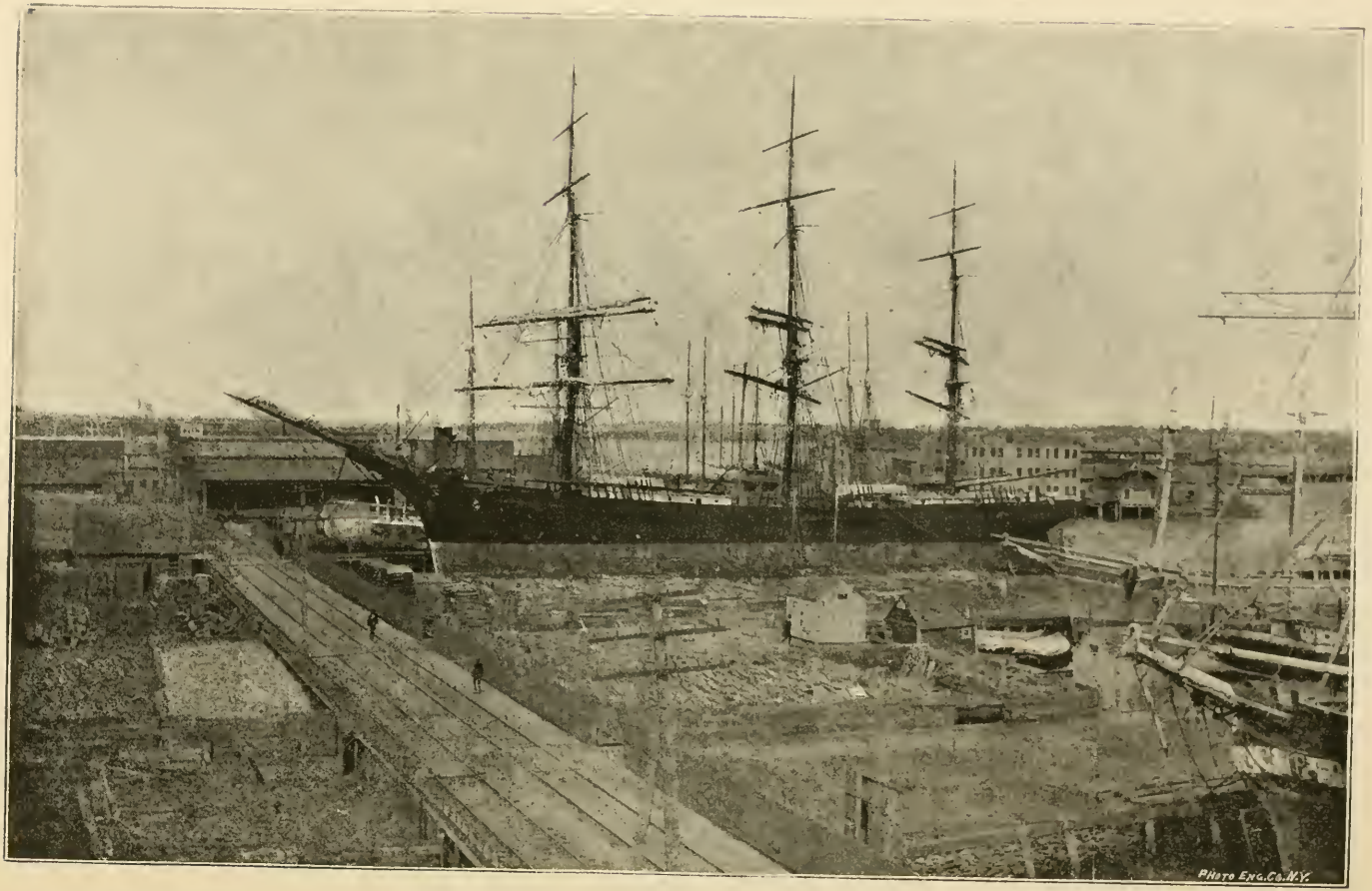
The depredations of rebel cruisers at the opening of the Civil War carried dismay into our whaling fleets as early as 1862, but the great loss occurred in June, 1865, when the Shenandoah entered into Behring strait and captured and burned twenty-five ships, most of them of large size, and bonded four others for the purpose of furnishing transportation. Fifty whaling vessels were captured by the rebel cruisers, of which forty-six with outfits and cargoes were burned. Of this number twenty-eight sailed from and were owned in New Bedford. The loss of ships and outfits belonging here exceeded one million of dollars, and of oil and bone on board, $400,000. Many ships were sold during the war or were transferred to the merchant service. Some in the Pacific ocean were put under the Hawaiian flag. Of those sold forty were purchased by the United States and formed the larger portion of the two famous stone fleets which in 1861 were sunk off the harbors of Charleston and Savannah to prevent the entrance of blockade runners and the ingress and egress of privateers. Of these vessels the greater number were New Bedford whalers. In September, 1871, thirty-three ships were abandoned in the Arctic ocean hopelessly crushed in the ice. Twelve hundred men were hemmed in by the ice and escaped only after a perilous journey of seventy miles. Of the thirty-three vessels crushed or abandoned, twenty-two belonged in New Bedford and were valued without the oil and bone on board at $1,090,000. In 1876 twelve ships were aban-

doned in the Arctic. Fifty lives were lost and $660,000 worth of property was destroyed.

The latest momentous disaster to befall the whaling industry was on the third of August, 1888, when five vessels were lost in a terrific gale off Point Barrow in the Arctic ocean. Three of these vessels were owned in New Bedford—the ship Young Phœnix and barks Mary & Susan and Fleetwing—and the loss sustained by the New Bedford owners was about $60,000. These whalers were anchored between Cape Smith and Point Barrow, waiting for the ice to break up. All the vessels in the fleet suffered by the storm and were succored by the U. S. R. M. steamers Thetis and Bear, which carried the shipwrecked whalemen to San Francisco. Scarcely a season goes by without some similar disaster, and the whole life of an Arctic whaleman is crowded with danger and suffering.

From natural causes the whale-fishery began to decline before some of these disasters occurred, and the shipping has never been replaced except by the building of an occasional vessel; but the capital that could again have sent out great fleets on the sea to replace those fired by the pirate's torch or whose timbers are entombed in Arctic ice and snow contributed to the varied industries of the city.

The average price of sperm oil for the year 1887 was 66 cents, of whale oil 32 cents, and of bone $3.12. The reader will glean from this the truth, that the value of the catch in late years depends largely on the bone secured, which is by far the most important feature of many whalers' cargoes. It is within the remembrance of many an old whaleman when this bone, now so precious, was dumped over the ship's side as waste or only saved by the sailors for "scrimshaw work," as they termed their employment in idle hours on shipboard in making curious knick-knacks for friends on shore. When first saved, the bone had a market value of only a few cents a pound. In 1823 it was worth about 12 cents. From that it jumped to 25, then 30 and 40, as its value became more apparent, and when the demand increased the price rapidly rose to about the present figures. While substitutes were found for the other products of the whale-fishery, inventive genius in vain has strived to supply an article that will fill the place of the whalebone. Russian horn, celluloid,—artificial and natural substances alike have been tried, but none will answer the purpose. The discovery of petroleum was timely, for the increasing



MERCHANT SHIP JOSEPHUS AND WHARF SCENE.

demands of the New and the Old World could never have been supplied by whale oil, but it is reserved for the future to find that substitute which can fill the place of the bone which now advances in price with its ever-growing consumption.

A rough estimate shows the capital today invested in the whale-fishery in the world to be not far from two and a quarter millions dollars. Of this New Bedford alone has an interest of a million and three-quarters — seven-ninths of the industry being managed in New Bedford.

Despite its decline, it is an undisputed fact that the whale-fishery of our city, as now carried on, has a larger interest than the whaling of the whole outside world together.

The statistics given herewith will show the reader something of the magnitude of New Bedford's present whaling interests.

Vessels Employed in the Whale-fishery January 1, 1888.

	Ships and Barks.	Brigs.	Schooners.	Tons.
New Bedford,	62	2	10	18,911
Edgartown,	2	1	1	612
Provincetown,	–	1	8	881
Boston,	–	1	2	296
New London,	–	–	3	491
Stonington,	–	–	2	180
San Francisco,	19	1	1	6,480
Total for January 1, 1888,	83	6	27	27,851

Importations

Of sperm oil, whale oil, and whalebone into the United States in 1887 :

	Barrels Sperm.	Barrels Whale.	Pounds Bone.
New Bedford,	13,565	2,503	15,370
Boston,	1,366	–	–
Provincetown,	486	44	490
New London,	–	1,120	6,049
New York,	2,576	634	1,408
San Francisco,	880	29,870	561,694
Total,	18,873	34,171	585,011

In studying this table the reader must bear in mind that the great New Bedford Arctic fleet has its rendezvous at San Francisco, and

that the New Bedford whalemen bring into that port an immense amount of oil and bone, which swells the figures of the importations of San Francisco given above. The magnitude, however, of the business of New Bedford is shown by the fact that the total value of oils and whalebone imported into New Bedford for the past half century was $141,290,177. The following table compiled by B. F. H. Reed shows the average prices of whale catchings for half a century and the value of oil and whalebone received at New Bedford:

Date.	Sperm oil per gal.	Whale oil per gal.	Whalebone per pound.	Value of catch.
1835	$.84	$.36	$.24	
1836	.88	.44	.25	
1837	.82	.33	.22	
1838	.85	.32	.19	$2,190,051
1839	1.04	.34	.19	2,385,337
1840	1.01	.31	.19	2,344,142
1841	.94	.32	.20	2,264,130
1842	.73	.34	.23	2,337,545
1843	.63	.34	.35	1,793,356
1844	.90	.36	.40	3,104,695
1845	.88	.33	.34	2,707,117
1846	.88	.34	.34	2,182,403
1847	1.00	.36	.31	3,383,562
1848	1.00	.33	.25	2,913,483
1849	1.09	.40	.32	2,765,460
1850	1.21	.49	.34	3,279,695
1851	1.27	.45	.34	4,812,395
1852	1.24	.68	.51	2,853,862
1853	1.25	.58	.34	2,733,015
1854	1.49	.59	.39	5,924,362
1855	1.77	.71	.45	5,283,120
1856	1.62	.79	.58	5,364,700
1857	1.28	.73	.97	6,178,728
1858	1.21	.54	.92	4,605,523
1859	1.36	.48	.77	5,831,564
1860	1.41	.49	.79	4,216,696
1861	1.31	.45	.70	3,384,463
1862	1.27	.51	.85	2,695,167
1863	1.11	.66	1.06	2,708,912
1864	.96	.63	.90	2,370,644
1865	1.45	.93	1.02	2,870,838
1866	1.82	.88	.95	3,137,088
1867	1.70	.54	.85	2,874,602
1868	1.39	.68	.73	4,756,040
1869	1.38	.77	.90	3,168,140
1870	1.20	.59	.77	2,981,012
1871	1.18	.54	.82	2,547,071
1872	1.32	.60	1.27	1,893,235

Date.	Sperm oil per gal.	Whale oil per gal.	Whalebone per pound.	Value of catch.
1873	$1.31	$.54	$.98	$1,833,112
1874	1.44	.55	.99	1,930,531
1875	1.41	.57	1.12	2,382,456
1876	1.25	.54	1.90	1,717,383
1877	1.07	.55	2.36	1,450,683
1878	.90	.43	2.42	1,786,585
1879	.84	.39	2.34	1,735,190
1880	.99	.51	2.00	2,014,688
1881	.88	.48	1.63	1,653,108
1882	1.06	.53	1.71	1,395,455
1883	.97	.54	2.87	1,048,266
1884	.85	.56	3.55	1,084,986
1885	.82	.45	2.68	1,429,551
1886	.74	.33	2.73	1,042,530
1887	.66	.32	3.12	1,642,794

The statistics for the term of suspension of specie payments during and after the war Mr. Reed based upon gold values.

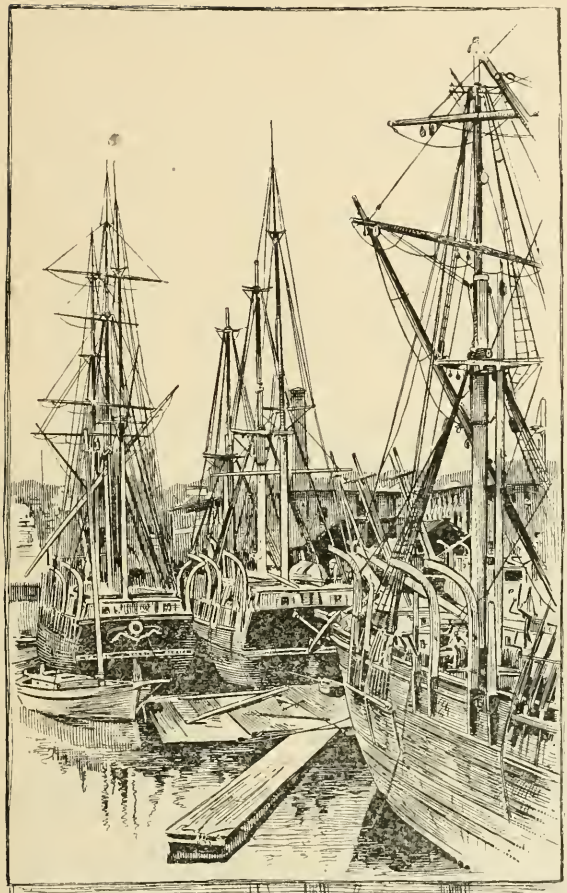
The following shows the number of whaling vessels belonging to New Bedford and their tonnage for the past fifty years, with the exception of two or three years not easily obtainable:

Date.	Vessels.	Tonnage.
Sept. 1, 1839	177	56,118
Oct. 1, 1841	201	63,659
Jan. 1, 1844	219	69,703
Jan. 1, 1845	239	76,784
Jan. 1, 1846	254	86,633
Jan. 1, 1847	254	82,701
Jan. 1, 1848	248	80,946
Jan. 1, 1849	250	81,075
Jan. 1, 1850	238	77,138
Jan. 1, 1851	249	81,442
Jan. 1, 1852	282	94,642
Jan. 1, 1853	311	104,005
Jan. 1, 1854	318	107,512
Jan. 1, 1855	314	105,459
Jan. 1, 1856	320	107,702
Jan. 1, 1857	329	111,364
Jan. 1, 1858	324	110,267
Jan. 1, 1859	316	107,931
Jan. 1, 1860	301	103,564
Jan. 1, 1861	291	98,760
Jan. 1, 1862	260	86,971
Jan. 1, 1863	220	73,061
Jan. 1, 1864	197	61,815
Jan. 1, 1865	175	58,042
Jan. 1, 1866	161	50,403

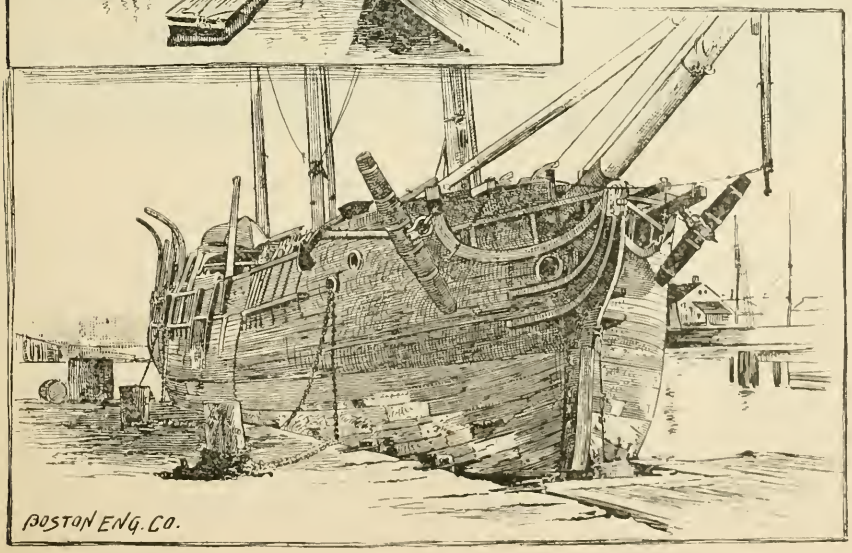
Date.	Vessels.	Tonnage.
Jan. 1, 1867	181	53,744
Jan. 1, 1868	182	52,652
Jan. 1, 1869	179	50,810
Jan. 1, 1870	176	50,675
Jan. 1, 1871	175	50,100
Jan. 1, 1872	144	40,286
Jan. 1, 1873	130	36,725
Jan. 1, 1874	113	32,594
Jan. 1, 1875	107	29,541
Jan. 1, 1876	116	31,691
Jan. 1, 1877	118	30,465
Jan. 1, 1878	130	33,444
Jan. 1, 1879	132	33,368
Jan. 1, 1880	125	31,899
Jan. 1, 1881	123	31,376
Jan. 1, 1882	111	28,186
Jan. 1, 1883	106	27,140
Jan. 1, 1884	93	22,877
Jan. 1, 1885	85	21,728
Jan. 1, 1886	77	19,913
Jan. 1, 1887	77	19,667
Jan. 1, 1888	74	18,911

The increase in 1846 was caused by the demand for vessels for the bowhead fishery, then just discovered in the Okhotsk and Kamchatka seas and the Arctic ocean. In 1850 the California emigration had an effect in the opposite direction.

One of the most important features of the whaling industry of today is the steam whaling. The steam whaler is an outgrowth of the necessities of Arctic whaling. It was soon found of the first importance to enter and leave the frozen seas with the greatest expedition. To a brainy seaman of New Bedford the idea of the application of steam at once suggested itself. He saw at a glance its possibilities—a quicker excursion to the Arctic, a longer stay with diminished danger of being nipped in the ice, and a greatly increased facility in pursuing the chase for the monster of the deep. With the characteristic enterprise and keenness of the hardy New Englander, he at once put his idea into practice. With ready money a steamer was built which revolutionized the methods of whaling, increased the catch, and was at once followed by others, until now the fleet of steam whalers is of prime importance in the industry. A description of one of these vessels will suffice for all. The William Lewis, the latest addition to the fleet of steam whalers, was built at Bath, Maine,

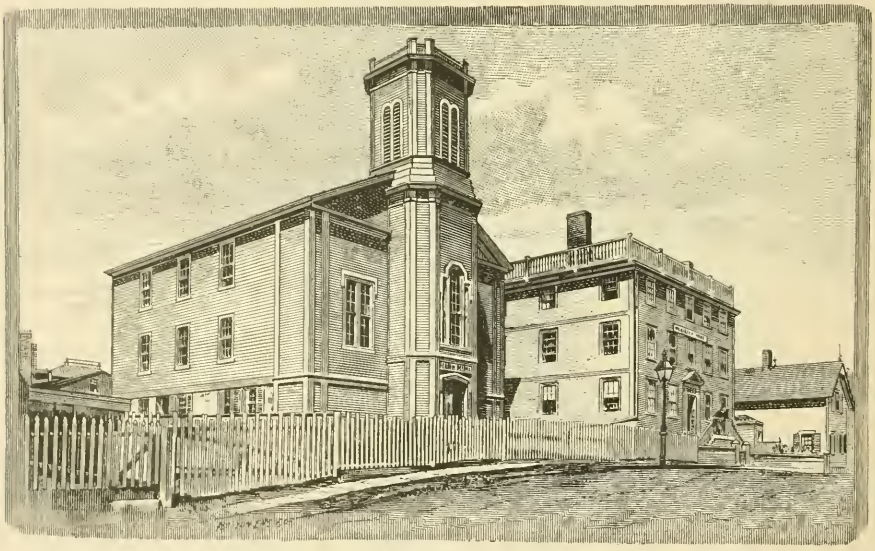


in the summer of 1888, and has left New Bedford for the Sandwich Islands, whence she will sail for the Arctic ocean in 1889. This vessel, which is bark rigged, is in some respects one of the finest of steam whalers. Of 460 tons gross tonnage, she is 145 feet long, with 30 feet breadth of beam, and the depth of her hold is 16½ feet. She is built entirely of live oak and white oak, copper and iron fastened. Her planking is of white oak, and she is sheathed with two inch hickory to protect her hull from



GROUP OF OLD WHALERS. BARK ROSSEAU.

the ice. Her stem is protected by heavy composition plates. To prevent her from being crushed if pinched by the ice, she has three sets of pointers forward and two aft. She is provided with a Providence steam windlass which is worked by steam power and is a very powerful labor-saving piece of mechanism. The vessel has a $4\frac{1}{2}$ compound engine, of 22 inches diameter of high pressure cylinder, 38 inches diameter of low pressure cylinder, and 26 inch stroke, fitted with independent adjustable cut-off valve. The shaft makes 100 revolutions per minute. The main cabin is unusually large, finished in ash with black walnut trimmings. A mahogany dining table occupies the centre of the floor. It has an extension at the forward end.



SEAMEN'S BETHEL AND MARINERS' HOME.

On the port side are three staterooms and a water closet, the last named leading from a passage on deck just forward of the wheel house. On the starboard side out of the main cabin are two large rooms,—the chief engineer's room and pantry, the latter being well supplied with lockers and drawers. Just forward of the engineer's room, in the passage-way to the main deck, are two state rooms, finished for other officers. The cabin is heated by steam. Aft of the main cabin is the captain's cabin, in ash, with the same trimmings as the main cabin, and supplied with furniture of the most attractive

patterns. The chairs and sofa are upholstered in brown plush and a Brussels carpet is on the floor. Adjoining this room on the starboard side is the captain's state room, furnished in a style in keeping with other furniture on the ship. The steerage on the port side forward of the cabin is fitted with eight berths and is heated by steam, while the forecastle, which is very large and contains twenty-two berths, is also heated by steam. The vessel has a large poop deck, on the forward part of which is a platform surrounded by a rail. This place is used as a lookout, and has communication with the engine room. Forward of the cabin is the engine, and just forward of the engine is the boiler. The cook's galley is aft of the mainmast and forward of the boiler. The wheel-house is aft and the steering gear is the Edison patent. On deck are two "try-pots," each capable of holding two hundred gallons, in which the blubber is tried out after being cut up. Between decks are large iron tanks, each holding one hundred barrels of oil. These tanks are to receive oil from the cooler and from them it is run through pipes into the lower hold to fill the casks. This description of one of the finest steam whalers ever built will give the reader as good an idea as words can present of this class of vessels, their protection against the ice of the north, and the comfort afforded their crews. She bears the name of the pioneer of steam whaling, a man to whose energy and enterprise the industry is greatly indebted.

For those who have not lived in a seaboard town it would be hard to imagine the cosmopolitan aspect of the whaling port of New Bedford in the great days of whaling. For those whose fortunes were cast along the coast the animated scenes at a wharf where a whaler is fitting are in striking contrast to the humdrum though busy life on their own piers attending the loading and unloading of merchant vessels. Representatives of every nation on the face of the world contribute to a whaler's crew. The typical Yankee's nasal twang, the Frenchman's jargon, the Irishman's brogue, the South Sea Islander's guttural tones, the Spaniard's oaths, mingled with the strange speech of the Portuguese, the Swede, the Norwegian, the German, the Italian, the Malay, and the Chinese, — every tongue is heard in a surprisingly weird medley. Coal black "Bravas" from the Cape Verd islands jostle against the Americanized African negro and intermingle with a motley group of sailors voluntarily exiled from their homes in Pico, San Miguel, Fayal, Flores, Corvo, and other islands of the Azores.

In curious contrast to these men of swarthy complexion are the light haired men of northern Europe. Here indeed is a congress of nations. Such an ethnological study with the living subjects for many years presented itself daily to the stranger in New Bedford.

The great Arctic fleet now has its rendezvous at San Francisco, where the ships are fitted out, and in the middle of February a host of the New Bedford ship masters and seamen make a hurried trip across the continent to join their vessels, returning to their homes early in November at the conclusion of their voyages into the frozen north.

At New Bedford all the ships but the Arctic fleet are now fitted out, the work giving employment and business to mechanics and tradesmen of every description. In the past, many whalers were built here, and no better constructed craft ever sailed the seas. They were built on honor, and integrity and conscientiousness went in with every bolt and timber. But with the decline of whaling, the ship yards were one after another abandoned, and a large part of the population of New Bedford can now scarcely remember the spectacle of a launching. Some of the fleet, in the days when a great demand for ships existed, were purchased from the merchant service and transformed into whalers. For voyages in southern waters the vessels do not need the stout armor that surrounds those that are destined to push through frozen waters. When the blacksmith, the cooper, the ship carpenter, the caulker, the sailmaker, the painter, and the rigger have finished their labors the vessel is in readiness for her outfit. In years past the first step was to fill her ground tier with salt water, partly as ballast. In those days the whalers had three tiers. At this time, however, the greater number have but two and only fresh water is taken aboard. First comes some five hundred barrels of water, then fifty barrels of salt provision, fifty or sixty barrels of flour in bread, and twenty barrels filled with uncooked flour. A thousand gallons of molasses, four hundred pounds of coffee and the same amount of sugar follow. Household stores of almost every kind are represented, and the furnishings embrace a wonderful variety of articles. An estimate of the fittings in 1858, when sixty-five ships sailed from New Bedford, showed an expenditure of almost two million dollars, and included flour, meal, beef, pork, salt, molasses, rice, beans, dried apples, sugar, butter, cheese, ham, codfish, coffee, tea, raisins, corn, potatoes, onions, vinegar, sperm candles, fresh water, oak and pine wood, staves, head-

WHARF SCENE LOOKING SOUTH FROM DRAWBRIDGE.

ing, iron hoops, rivets, sheathing copper and yellow metal, sheath nails, coppering nails, tar, cordage, boat-boards, pine boards, flags, bricks, lime, canvas, cotton twine, cotton cloth, tobacco, white lead, linseed oil, paint, liquors, gun powder, and clothing. These were only the principal articles. The catalogue in detail is astounding for its minutiæ, showing that the whaleman pays tribute to almost every trade.

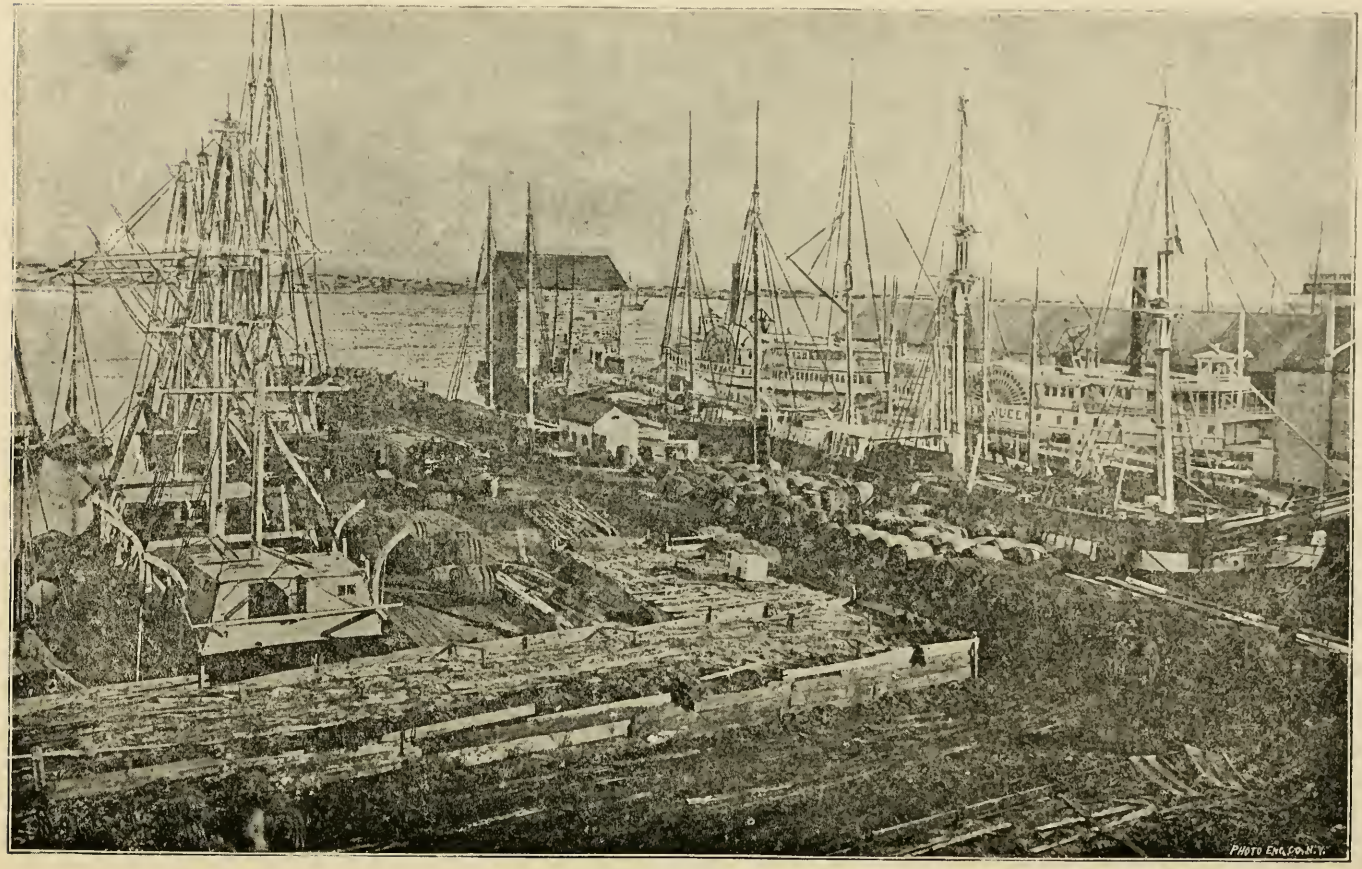
Shipping a crew is not the least important task of the owner of a whaleship. In the average ship, from twenty-four to thirty men are required. These must be selected with care, for upon their skill, enterprise, and endurance the success of the voyage depends. When the owner has provided a good ship and has furnished her with every appliance for her work, he must still trust the success of the voyage to the men who are selected to conduct it. Ordinarily, the crew includes: The master, usually a man of long experience and tried ability, who has served in many subordinate positions under skilled captains; the mates, three or four in number, daring, alert seamen, with the ambition to show themselves worthy the command of a vessel; the boat steerers, brawny sons of the sea, with quick eye and ready decision in emergencies; the steward and cook, men of great importance on shipboard; a cooper, whose duties are indicated by his title, and who is often an adept at many trades; and the sailors, who are usually graded as seamen, ordinary seamen, and green hands. Among these latter may often be found smart, active young men from the country, destined in years to come to be masters of ships, because they are built of the timber found in the masterly sailor. The way to the cabin is often long and difficult, and the seekers for distinction in the whaling service experience the same discouragements and disappointments that come to the ambitious in all other pursuits.

The introduction of the steam whaler has added to the officers of the vessel the engineer, and to the crew the firemen.

When the ship is ready for sea, she is towed out of the harbor by a stuffy little tug and is soon, with all sail set, off on her voyage. The first night out all hands are called aft to tell off the watches and select boats' crews. The regulations to be observed on shipboard are read and the master gives general instructions to be obeyed during the voyage. On the first calm day the boats are lowered, and the green hands are taught their places and the handling of their oars. Many

a poor boy has had a dreaded attack of seasickness or the equally dreaded malady, homesickness, but a considerate New Bedford captain practices forbearance and the stricken ones are excused from duty aloft and are soon in a condition to resume their work.

The sailors are divided into boats' crews of six. When whales are sighted frequently all the boats are lowered at once. Six men remain aboard as ship keepers, while their comrades in the several boats lessen the chance of the escape of their prey. When the leviathan is neared the boatsteerer throws the irons and at once changes positions with the boatheader, who is generally the master of the ship or one of the officers, and whose duty it is to strike the whale with the lance. The officer does this, going forward as the boat draws to the whale's side. The great monster spouts blood, the sign of the throes of death, and often this ends the chase, nothing remaining but to tow the whale to the ship for the processes of cutting in and boiling out. But frequently the pursuit does not end in this way, for the whale sometimes assumes the role of pursuer and enacts it with wonderful effect. Then is seen the most exciting and dangerous part of the whaleman's life. The monsters of the deep are endowed with enormous strength which, when wounded or infuriated, they use with terrible effect. Scores of thrilling stories are told by every old whaleman. A typical one is that of Capt. Mallory of the bark Osceola, who relates an instance in which one of his boats struck a large sperm whale. Soon after another boat fastened to him and was stove. Then from the first boat a bomb lance was fired into him. This boat was at once stove by the whale, the bottom being knocked completely out. The ship picked up the swimming crews and was then steered for the whale. On seeing his new antagonist he rushed at her, striking her on the bow, knocking off the cutwater with his head, and tearing the copper and sheathing from her bow with his jaw. The ship was again run for him, and as she ranged alongside two bomb and two whale lances were fired into the whale. A boat was then lowered and two more bomb lances were discharged into him without effect. By this time it was night, and the boat was called aboard. The ship was kept near the whale, which could be occasionally heard fighting the fragments of boats and oars. "Thus through the night," continues the narrator of this episode, "he held his ground, although he had two lines (600 fathoms) towing on to the harpoons, five bombs exploded in him, and other wounds from lances." The



TABER'S WHARF.

next morning the attack was renewed with bomb lances and thirty-one were fired into him before he was killed.

No limit to these exciting stories has ever yet been found. The readers of this book will be more interested in them than in the statistical tables of the catchings and valuations, important as they are. Here is the narrative of an experience which is typical of hundreds of others. The captain of the bark Parker Cook of Provincetown many years ago lowered two boats for a bull sperm whale. The nearest boat met him head on, and, when abreast of the hump, the boatsteerer put two irons into him. Before the boat could be brought head on, the whale jumped half out of water and capsized the craft, the line fouling the boatsteerer's leg, almost severing it from the body. Manifesting wonderful nerve and great presence of mind, the sailor cut the line. The other boat picked up the upset crew and returned to the bark. But the whale was not satisfied with this. He ran for the bark with all the force at his command, striking the vessel a tremendous blow, prostrating the men on deck and burying in his head the cutwater and stem up to the planking. A second time he struck the vessel, but with much less force. Meanwhile the captain had made ready his bomb lance and lowered another boat. Three times, within eight yards of him, the captain fired the lance into his body, and eventually made him spout blood, though with every piercing of the lance he rushed open-mouthed at the boat, requiring the utmost skill and courage to avoid him. One hundred and three barrels of oil was the reward of the captors, who were obliged to put into Fayal for medical aid for the boatsteerer, and to repair their damaged vessel.

Two ships at least have been destroyed by the attacks of whales. One of these was the Essex of Nantucket, and the other the Ann Alexander of New Bedford. In both these cases, the ship was struck by an infuriated whale and so injured that she soon sank. The crews were obliged to take to the boats, and suffered terribly. In fact, very few of the crew of the Essex survived.

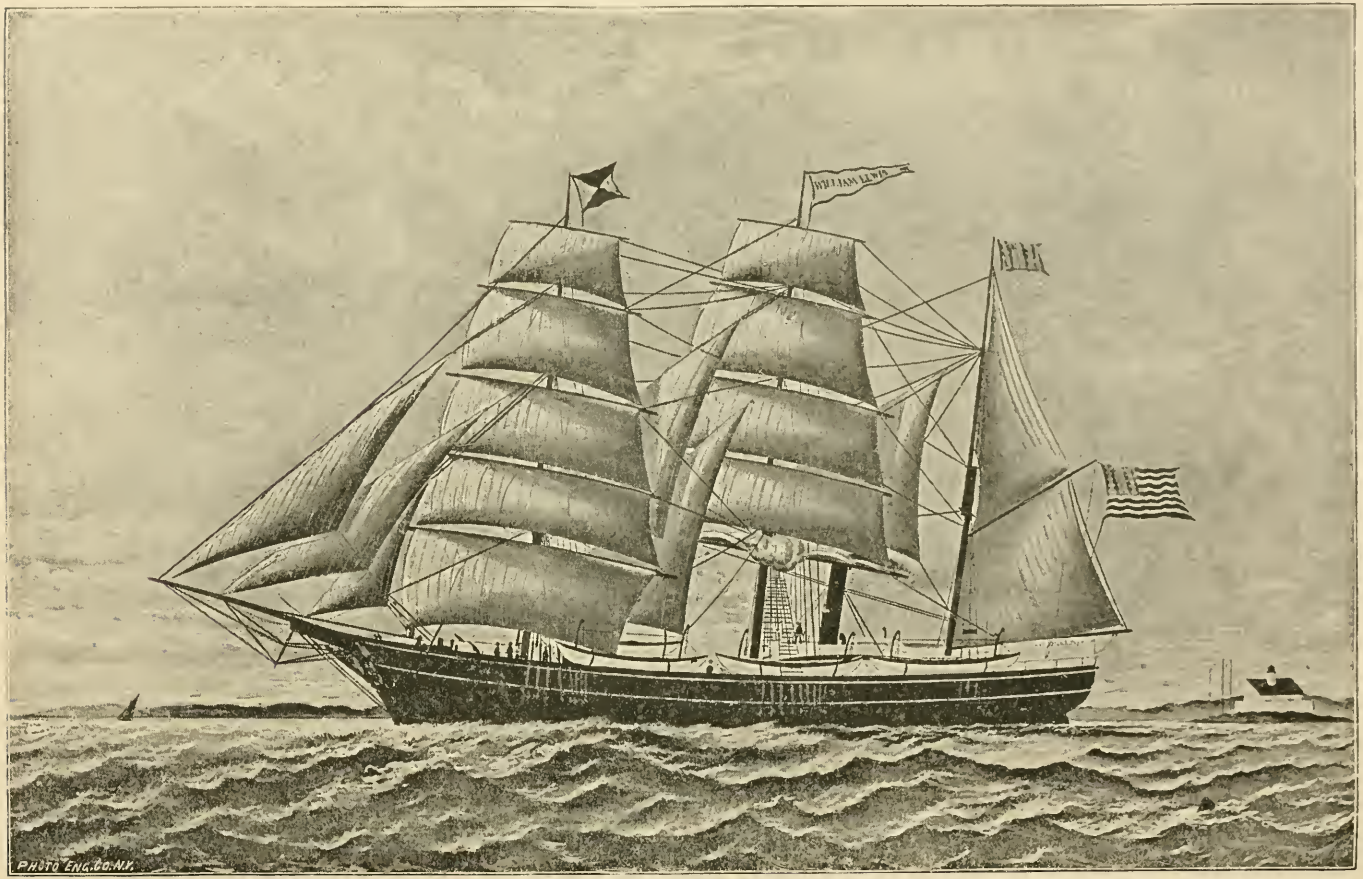
In one instance it is recorded that a whale was killed only after a chase of nine miles in which it carried off one boat, which was demolished, and nearly six miles of line.

Another captain tells an experience in which a whale was killed only after nine hours' fighting. Three boats were stove, a number of irons and bombs were lost, several oars were broken, and, to crown

all, the whale sunk in forty fathoms of water, carrying a large quantity of line with him.

When the whale is dead it is taken in tow to the ship's side. The cutting operations are then begun. The great pieces of blubber are hauled over the main hatch and minced into fine pieces called horse pieces and the boiling begins. Water is pumped into caboose pens or jogs along the deck to prevent the woodwork catching fire from the try works. The casks containing the provisions, tow lines, or sails have been emptied and are cleansed and swabbed clean. The hot oil is then forced in and the casks are lashed to the rail on the ship's side to cool before being stowed below. Various modifications of this process are, however, practiced in different vessels. When a whale is cut at night one watch boils until midnight while the other watch is below, and from that time until six in the morning the second watch takes hold. The oil once below and the weather good the whalemen are again on the outlook for their prey. From twelve hundred to two thousand barrels is a good voyage for right whalemen. Preparing the casks for the oil, it is readily seen, gives employment to the cooper with the shooks which are stowed snugly away below on the outward trip.

"I should like," says Capt. Davis, author of The Nimrod of the Sea, himself a veteran whaleman, in speaking of the right whale, "to convey to the reader some idea of the dimensions of the creature from which the bone is taken. To do so is only possible by entering into the details of the various parts, with their sizes, and by comparison with objects familiar to the mind. The blubber, or blanket, of such a whale would carpet a room twenty-two yards long and nine yards wide, averaging half a yard in thickness. * * * Set up a saw-log two feet in diameter and twenty feet in length for the ridge pole of the room we propose to build: then raise it in the air fifteen feet, and support it with pieces of timber seventeen feet long, spread, say, nine feet. This will make a room nine feet wide at the bottom, two feet wide at the peak, and twenty feet long, and will convey an idea of the upper jaw, the saw-log and slanting supports representing the bone. * * * These walls of bone are clasped by the white blubbery lips, which at the bottom are four feet thick, tapering to a blunt edge, where they fit into a rebate sunk in the upper jaw. The throat is four feet thick, and is mainly blubber, interpenetrated by fibrous, muscular flesh. The lips and throat of a two-hundred-and-



STEAM WHALER WILLIAM LEWIS.

fifty-barrel whale should yield sixty barrels of oil, and, with the supporting jaw-bones, will weigh as much as twenty-five oxen of one thousand pounds each. Attached to the throat by a broad base is the enormous tongue, the size of which can be better conceived by the fact that twenty-five barrels of oil have been taken from one. Such a tongue would equal in weight ten oxen. * * * The tail of such a whale is about twenty-five feet broad and six feet deep, and is considerably more forked than that of the spermaceti. The point of juncture with the body is about four feet in diameter, the vertebra about fifteen inches; the remainder of the small being packed with rope-like tendons from the size of a finger to that of a man's leg. The great rounded joint at the base of the skull gleams like an ivory sphere, nearly as large round as a carriage wheel. Through the greatest blood-vessels, more than a foot in diameter, surges, at each pulsation of a heart as large as a hogshead, a torrent of barrels of blood heated to one hundred and four degrees. The respiratory canal is over twelve inches in diameter, through which the rush of air is as noisy as the exhaust-pipe of a thousand-horse power steam engine; and when the fatal wound is given, torrents of clotted blood are spattered into the air over the nauseated hunters. In conclusion, the right whale has an eye scarcely larger than a cow's, and an ear that would scarcely admit a knitting-needle."

Of the whaleships many have paid the purchaser the vessel's original cost, the expense of her outfitting, and something additional in one voyage. Many voyages are recorded in which the value of the catchings ranged from $65,000 to $100,000. Occasionally one has gone beyond this high figure. On the other hand, there have been voyages in which scarcely a whale has been seen.

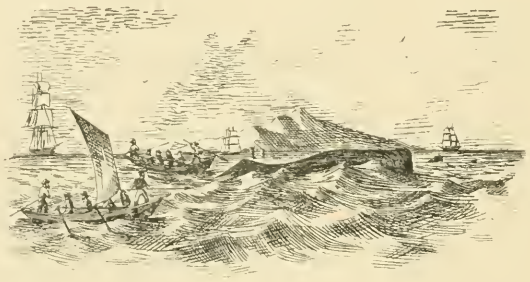
A sperm whaler's voyage is often extended three or four years. In that time the ship visits the Pacific and Indian oceans, New Zealand, the Society and Feejee islands, and the coast of Peru. The vessels leave in December, January, and February. Occasionally they make what is called a mixed voyage, seeking both sperm and right whales, taking each in its season. If whales are taken on the outward trip the catch is often shipped home from the Western Islands or the first port touched.

A whaleship is like a farm. Something to be done is always the rule. There is no room on board for drones; every hand must be a worker. While not pursuing a whale one watch—the division of

officers and crew which manages the vessel—is always busy on deck for four hours at a time. The remainder of the crew are then below reading or sleeping or repairing clothes or doing such work as they choose for themselves. Saturday is wash day, and Sunday, if no whale is in sight, all work is suspended; but at the signal "There she blows!" everything is bustle and the Sunday quiet must be set aside for the business of the voyage.

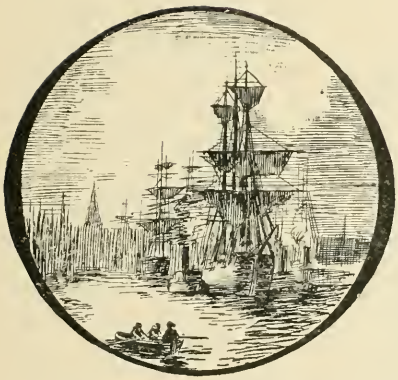
The Seamen's Bethel and Mariners' Home, illustrated on page 40 of this book, is, to those who see it daily, a constant reminder of what New Bedford owes to the whale-fishery. These are under the management of the New Bedford Port Society for the Moral Improvement of Seamen, an organization which was formed in 1830, and which was the direct result of concern for the moral and religious welfare of the thousands of seamen who were brought to New Bedford by the demands of the whaling industry. Under the care of faithful chaplains, the Bethel has done a work the influence of which has reached to every corner of the world, and the Mariners' Home has proven a welcome resting place to many a weary sailor.

The whaling industry has also its newspaper organ, the Whalemen's Shipping List and Merchants' Transcript, which was founded by Henry Lindsey in 1843, and which has since been published weekly. It is now conducted by E. P. Raymond, who has managed it since 1861, and has owned it since 1873. No other paper like it can be found in the world, and few commercial journals can boast of including so widely separated regions in their circulation.



CHAPTER III.

SEEING THE SIGHTS.



ONE of our oldest residents received the other day a letter of inquiry which interested him more than such a letter might have been expected to. He is a typical New Bedford citizen, who received the foundation of his knowledge in our public schools. At an early age he commenced a life on the ocean wave and later he became the successful master of a whaling vessel. When he was no longer of use in the long boat, having acquired a competency he retired from active business and invested his fortune in home industries, from which he receives an ample income. The old gentleman feels that he is indebted to his city in many ways and he regards it as a duty and a pleasure to do whatever he can for the promotion of its interests. The letter was as follows:

My Dear Sir:—I write to ask your advice with relation to a summer home. Several of my family have been ill with a malarious difficulty and are yet delicate. The regulation summer resort won't do at all. I am looking for a quiet but interesting place, with pretty natural attractions, boating facilities, and pleasant drives. Above all, the place must be healthy. If you know of any place combining such advantages, will you kindly communicate with me?

A day or two before, the old gentleman had received a note from the son of a friend of his youth, who had been engaged in manufacturing in England for many years, and who desired to engage in a similar line of manufacturing in this country. This gentleman

had sought advice with relation to an eligible place to locate and had returned to this country to decide upon a situation.

Immediately on receipt of the above letter, the old gentleman sat down and wrote to each of his friends, inviting them to run down to New Bedford for a day. The invitations were accepted and two days later, on the arrival of the New York train, both gentlemen appeared and were cordially received by their host.

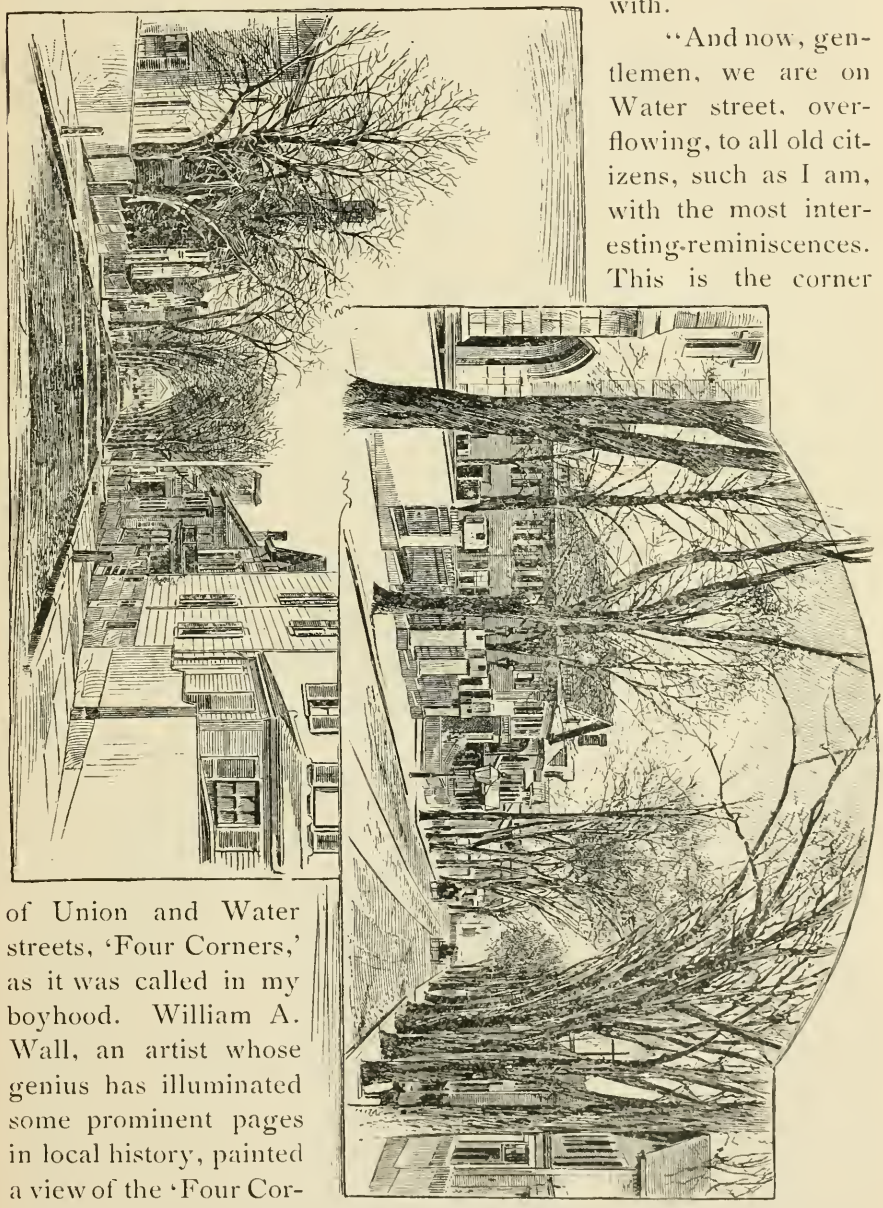
At the breakfast table the latter disclosed the reason of his invitation. "Before the day is over," he said, "I hope to convince you, my dear sir, that there is no more delightful place in which to spend a summer this side of Paradise than in New Bedford, and you, sir, that this city offers unrivalled facilities for manufacturing purposes. Two unqualified statements, you see, but statements which I am confident you will admit at my dinner table. This morning I propose to take you for a stroll and this afternoon we will devote to driving. If you have finished your coffee, let us take our hats and go.

"I dare say you will often find me inclined to lapse into ancient history, gentlemen," said the host, as the party emerged on the street; "I have lived to see this place undergo many wonderful changes and I am apt to grow reminiscent as I wander along. When I grow tiresome don't hesitate to interrupt me, but I wish to thoroughly inform you about my city before you leave it.

"You may have observed that New Bedford is built on a hillside. As our centennial orator expressed it, it 'lies between green pastures on the one hand and the still waters of the river on the other.' To give you the facts in a practical form, the city is situated on the west side of the Acushnet river, which makes up, in a northerly direction, into the land near the western extremity of Buzzards bay, on the south shore of Massachusetts. At present we have a population of 38,000 to 40,000 people, and we are growing rapidly. We rank first as a whaling city, as everybody knows, and third in the point of cotton manufacturing among the cities of the United States, having surpassed Lawrence, Manchester, Lewiston, and other places. We have about one hundred and twenty miles of streets, forty or fifty miles of which are macadamized or paved. The city is about ten and two-thirds miles long from the tip of Clark's point on the south to Freetown on the north, and its average width is two miles. The area of the city is about twenty and one-quarter square miles. Finally,

New Bedford is, I believe, the wealthiest city in the United States in proportion to its population. So much for a few cold facts to start with.

"And now, gentlemen, we are on Water street, overflowing, to all old citizens, such as I am, with the most interesting reminiscences. This is the corner



WILLIAM STREET EAST FROM COUNTY.

UNION STREET EAST FROM COUNTY.

of Union and Water streets, 'Four Corners,' as it was called in my boyhood. William A. Wall, an artist whose genius has illuminated some prominent pages in local history, painted a view of the 'Four Corners in 1812,' which is regarded as accurate in detail and truthful in the portraits of several leading actors of those times. Among the

incidental features of this painting is a picture of William Rotch, senior, 'Friend Rotch,' as he was called, in one of the old-fashioned square-topped chaises of the period.

"Almost every old building on this street is interesting to me and I shall show you houses which were here previous to the Revolution. This was one of the first streets of the old town. When I was a boy it was the principal business street. But innovations have come. 'Westward the star of empire takes its way,' and business has taken the same direction. Fifty years ago all the dry goods, boot and shoe, and tailor shops, the book, hardware, and drug stores were on this street and the lower part of Union street.

"But while these innovations have come to the dealers in merchandise, there are two classes that have remained. The financiers and the lawyers have never deserted the street. Nearly all of our banks and insurance offices are located here. Three generations of our wealthy men have been daily frequenters of the street. Within these precincts are the old law offices, where notables of the bar in bygone years have received their maiden fees. From these offices have gone forth five judges to dignify their high stations, two of whom have been chief justices, two members of Congress, of whom city and state are proud, two attorney-generals, and a governor of the Commonwealth. Their students have read Blackstone in these old rooms and, when their seniors have been called to appear before the final bar, have taken possession, while the legal world has gone on as before. The faded and weather-worn collection of ancient signs over dilapidated stairways and beneath chamber windows have, while they were permitted to remain, been suggestive of rich memories to the elderly citizens who paused to peruse them. Among those who have been called to serve in distinguished positions are John Henry Clifford, who was governor of the State in 1853 and also attorney-general for several years. During his term in the latter office he conducted the memorable trial of Prof. John W. Webster for the murder of Dr. George Parkman. Subsequently he declined appointment as minister to Russia and Turkey. George Marston served as attorney-general for several years, and Thomas D. Eliot and William W. Crapo served long terms in Congress. The above, with the exception of Mr. Crapo, are now dead."

"What is that building of brick and brown stone which is so prominent and so handsome?" asked one of the strangers, at this point.

BRIDGE AND CITY FROM YACHT CLUB HOUSE.

"I'm glad you interrupted me, sir, for I should certainly have wearied you. That is the new building of the National Bank of Commerce, one of the prosperous banks of this city. This magnificent edifice occupies the site of the old Bedford Commercial bank, which, I remember, was a quaint old structure of brick and stone, the windows of which were fortified with heavy shutters. A heavy block tackle was used for hoisting up a heavy wooden trap door, and a still heavier one beneath opened to the steps that led to the subterranean vaults where the specie was kept. This iron door was fastened by a long tongue-bolt, running lengthwise with the door, and drawn by a secret process in another part of the building. I can see the old cashier now, in his pepper and salt suit, his knee-pants, and knee buckles. Heigh-ho!

"At the foot of William street you see the handsome granite front building, with eight heavy pillars, occupied on the lower floor by the Merchants and Mechanics national banks.

"The Board of Trade rooms are on this street," said the old gentleman, "and we will look in for a moment. They are not pretentious, as you may see, but they have been and are the centre of many influences which have been of much benefit to the city. The Board was organized on the 5th of March, 1884, as the outcome of a feeling which had existed for several years that such an organization was needed in New Bedford. At first, it did not include the representatives of many interests beside that of whaling. Though its benefits were best in this branch of our industries, it soon became apparent that the Board was not exerting the influence it ought upon the newer enterprises of the city. Accordingly, in 1886, a number of the younger business men took hold of the organization, and it has since been an active factor in promoting the growth and prosperity of New Bedford. Its more than two hundred and fifty members represent every industry and business in the city, and their combined efforts and influence have been productive of many valuable results. Conspicuous among the enterprises of the Board was its first industrial fair, held in the autumn of 1887. It was an experiment, and a doubtful one. But it was a revelation to our own people of the extent and variety of our home manufactures. Thousands of persons visited it, and went away with a higher opinion of their city than ever they had before. It is asserted by men who are familiar with the facts that to the influence of this fair is due the

establishment of at least one more cotton manufacturing enterprise.* The Board has also interested itself in securing better postal facilities, and in many ways has been watchful for the welfare of the city. Its rooms are attractive, without being over fine, and afford a pleasant resort for the members.

"Walking south to the corner of Water and School streets, we see an old-fashioned square house on a high embankment. The house was built for William Hathaway in 1772 and it is not improbable that old knocker has often resounded through the house in Revolutionary times as some of Mr. Hathaway's neighbors came to tell him of important news of the War for Independence. The house is now known as the Gideon Howland house.

"And this old house reminds me that Gideon Howland was a member of one of the most celebrated of whaling firms, I. Howland, Jr., & Co. He married a daughter of the head of the firm in 1798, at about which time the firm was organized. Thomas Mandell was admitted a partner in 1819. Gideon had two daughters, Sylvia Ann and Abigail. The former died in 1865, leaving a property of about $2,000,000. Among her bequests were $100,000 towards the introduction of water into the city, a similar sum for educational and literary purposes, and another large bequest for the benefit of aged women of the city. Abigail married Edward Mott Robinson, and their daughter, Hetty Howland Robinson, married Edward Green, of New York. She is now reputed to be the wealthiest woman in America. Gideon Howland died in 1847, and within the memory of most people now living the firm consisted of Messrs. Mandell and Robinson and Miss Howland. Miss Robinson was the heir to $5,000,000 from her father and $1,000,000 from her aunt.

"The high towers which are seen on many of the old buildings

*The fair of 1888, in progress while this book was passing through the press, was even more successful than that of 1887. It was held in the Adelphi rink, a large building on the corner of County and Mill streets, commencing on the 1st of October and continuing four weeks. The representation of the industries of the city was very complete, some of the more prominent being cotton manufacturing, shoe making, glass working, and the manufacture of silver plated ware. Other industries showed their finished products. The rink did not afford sufficient space for the exhibitors who desired places, and the managers were forced to build a large annex in Mill street, while an adjoining ward room was also utilized. While the fair was in progress it was visited by fifty thousand persons, including hundreds from other places. It is hoped that the industrial fair will hereafter be held at regular intervals.

RESIDENCE OF CHARLES S. KELLEY.

in the vicinity mark the shops formerly kept by the outfitters. Men were constantly watching in these towers, in the palmy days of whaling, for incoming whaleships, and immediately one was sighted the outfitters would start in their boat to meet the ship. Then they would run alongside, swarm over the rail, and solicit customers. As most of the whalemen in those days had good sums of money coming to them on the settlement of the voyage and as they spent it with all the freedom for which Jack is proverbial, there was always a sharp rivalry among these agents.

"Going still farther south we reach the Portuguese quarter of the town. At the windows are dusky women with red bandannas wound fantastically about their heads, and the stores in this section are kept by Portuguese. Some of the older of the inhabitants found their way here on whaleships but many of them have come here from the Western Islands by the packet lines, the barkentine Moses B. Tower making four regular trips yearly between this city and the islands. If we were to walk half a mile farther south, we should come to the Potomska and Acushnet cotton mills. The only house for religious worship on this street is the South Mission Chapel, which has done an excellent work among the sailors in the past and is doing equally excellent work in a rather different line now."

"I should like to have a look at the wharves," said one of the visitors.

"So you shall," said their guide. "The principal wharves are twenty-five in number and they front upon one of the most beautiful harbors in the world. The pretty and pertinently named town of Fairhaven lies opposite. A draw-bridge, about four thousand feet in length, connects the city and town, and the cars of the Union Street Railway Company cross it at intervals of twenty minutes. Let us walk down Middle street and over the bridge a little way, that I may let you have what to me is a most charming view. The first bridge, I may say, was constructed in 1798 but was washed away in 1807. It was rebuilt, but was again destroyed in the September gale of 1815. A new bridge was constructed some four years later, but it was ruined in the great September gale of 1869. The present bridge was built soon after. Notice these fishing stands at frequent intervals. They are appreciated by the boys of all ages."

So the men crossed the bridge a distance and, turning, one could not help remarking :

"What a beautiful picture!"

"I thought you would be struck with it," said the old resident, complacently. "At the extreme north is the Grinnell mill. The group of six mills of stone and brick next south are the Wamsuttas, the most celebrated cotton mills in the world. Below the bridge are the immense coal pockets of the Philadelphia & Reading Coal & Iron Company, and still further south we see the works of the Pairpoint Manufacturing Company, the Mount Washington Glass Works, and the Potomska and Acushnet mills. The large number of elm trees add much to the beauty of the city. No city excels New Bedford in the matter of shade trees."

"The harbor is as charming as the Bay of Naples!" exclaimed the gentleman in search of a summer home.

"The river takes its rise near the Middleboro ponds," said the historian, "flows down by the village of Acushnet and increases in breadth until it empties into the bay. There are several pretty islands. That you see with the lighthouse is Palmer's Island, picturesque with craggy rocks and scrubby cedars. The little island near Fairhaven is Crow island. A rope walk formerly connected it with the main land on the Fairhaven side. The bridge crosses Pope's and Fish islands. The former retains some of its primeval cedars. Upon the latter are wharves, oil factories, and workshops. United States revenue schoolship S. P. Chase lies alongside the dock here during the winter months. This little bark is the training school for the cadets, who receive appointments as third lieutenants in the revenue service on their graduation.

"Between this island and the New Bedford side is the drawbridge. North of the bridge, on the Fairhaven side, is the rocky bluff called the Isle of Marsh, which, however, is only insulated at high water. At the north, the spires of the pleasant little village of Acushnet can be seen, while Fort Phœnix, the old fortress which surmounts a high rock on the Fairhaven side, is one of the most picturesque spots on the coast. The harbor is a favorite rendezvous for yachts during the summer, and the New York club and other great fleets visit us almost annually, when on their cruises. The treatment which they receive from the home club, whose handsome club house stands on Pope's island, and the citizens as well, has made the city famous among the bold Corinthians for its hospitality."

"What is the depth of the channel of the river?" inquired the

RESIDENCE OF WILLIAM J. ROTCH.

business man of the trio, who looked at the picture from a practical point of view.

"Vessels drawing eighteen feet of water can enter the harbor at mean low water and it is now proposed to excavate a channel two hundred feet wide of greater depth. New Bedford, by the way, is a port of entry, and the amount of revenue collected during the last fiscal year was $29,023.28. We have a regular line of fine passenger boats running to Martha's Vineyard and Nantucket and also steamer lines to New York and Nonquitt, the latter a new summer resort on the west side of Buzzards bay which is rapidly coming into prominence.

"Under some buttonwood trees on the New Bedford shore, near this bridge, the first ship built in the town was launched in 1767 She was owned by Francis Rotch and her name was the Dartmouth. Her first voyage was made to London with a cargo of oil. This vessel was subsequently famous as being one of the ships which carried into Boston harbor the tea which was thrown overboard. Among the earlier ships built was the Rebecca, owned by Joseph Russell & Sons, which was launched in the spring of 1785. This ship was built by George Claghorn, who afterwards built the frigate Constitution. The timber of which she was built was cut in the southwest part of the town. She measured 175 67-95 tons, which, we are told, was at that time considered so large that people came from Taunton and other surrounding towns to see 'the big ship.' A figurehead of a woman was carved for her, but the Friends society remonstrated against so vain and useless an ornament and she went to sea without it. A mock funeral was held over it by a few gay young men, one or more of them sons of Joseph Russell, and it was buried in the sand upon the shore. The command of so large a ship was deemed a great responsibility at this time. James Hayden was finally selected as captain. She was the first American whaleship that doubled Cape Horn, but she made a disastrous end. In the autumn of 1798 she sailed from Liverpool for New York and was never heard from afterwards. Central wharf, built by Joseph Russell, is the site of the original headquarters of the whale-fishery. The story of whaling in those days borders on romance, and men of iron nerve and energy were required to man these small and poorly-fitted vessels.

"A good many fine vessels were built here in days gone by, and

I think it was Mark Twain who makes one of his characters, an old salt, compliment them something in this wise. If you heave down one of those 'down east' vessels, he said, you can throw a dog through the seams, but take a New Bedford ship and you can 'heave her down and hold her there, and she'll never shed a tear.'

"Now, the scene at the wharves recalls Walt Whitman's lines:

'On sluggish, lonesome, muddy waters, anchored near the shore,
An old, dismasted, gray, and batter'd ship, disabled, done, and broken,
After free voyages to all the seas of earth, hauled up at last and hawser'd tight,
Lies rusting, mouldering.'

"But the old dismantled hulks of whalers lying alongside the docks are very dear in the eyes of their owners, having brought fortunes from the broad fields of the ocean, after much toil and manifold perils. And, as has been said, it has been a creation of wealth by the skill of the merchant and the hardy daring of the sailor, and not a mere exchange of the wealth. Few parallels can be found in this or any country of such successful enterprise. The oldest vessels in the world today are the Rousseau and True Love; the former now lies at the wharf at the foot of North street. Her history is very interesting. She was built for Stephen Girard, of Philadelphia, by Nicholas Vandusen, and was launched from the yard of the Vandusens, near Shakamaxon street, on the Delaware, in 1801. She is 95 feet long, 28 feet broad, and 18 feet deep, and registers 305 tons. Her rig was that of a full rigged ship and at the time of her building she was considered a fair sized vessel for those times. After doing service for Mr. Girard for several years, her rig was changed and she was regarded as one of the fastest barks sailing from Philadelphia. About a year after the death of Girard, in the latter part of 1831, she was purchased by the late George Howland, of this city, who was extensively engaged in the whale-fishery in the early part of this century. When the Rousseau arrived at this port she had open bulwarks forward of the mainmast, carrying on either side a spare spar, which lay in stout iron crutches and which afforded the only protection from the waves forward of that mast. Abaft the mainmast the deck was raised a few inches. She was immediately fitted for whaling, bulwarks being put in forward, and when she sailed on her maiden whaling voyage was in command of Capt. Walter Hillman, of Martha's Vineyard, and,

RESIDENCE OF WILLIAM W. CRAPO.

it may be added, the voyage was a good one. Later a new deck was laid and it was made flush. She was a well built ship, constructed of live oak top entire, with white oak bottom, and when her bottom was replanked some ten years ago, her floor timbers were as firmly on her keel as when built. After the death of George Howland, the vessel was continued in the whaling business by his sons, George and Matthew Howland. She made numerous good voyages and about seven years ago she was sold to her present owners, Aikin & Swift. She arrived in port from her last voyage April 8, 1886, with thirteen hundred and sixty barrels of sperm and one hundred and eighty barrels of whale oil. Philadelphians are discussing the feasibility of purchasing the old vessel and fitting her as a schoolship for wayward youth as a memorial to the great merchant, banker, and philanthropist.

"But our fleet is leaving us. One by one they weigh anchor and sail out on the great deep, doubling Cape Horn and making San Francisco their home port. Through the Golden Gate they pass on hazardous voyages to the Arctic, enticed by the alluring chances of great earnings in short periods. Let us hope

> 'That bright success may on their valor wait,
> And rich reward attend upon their toil.'

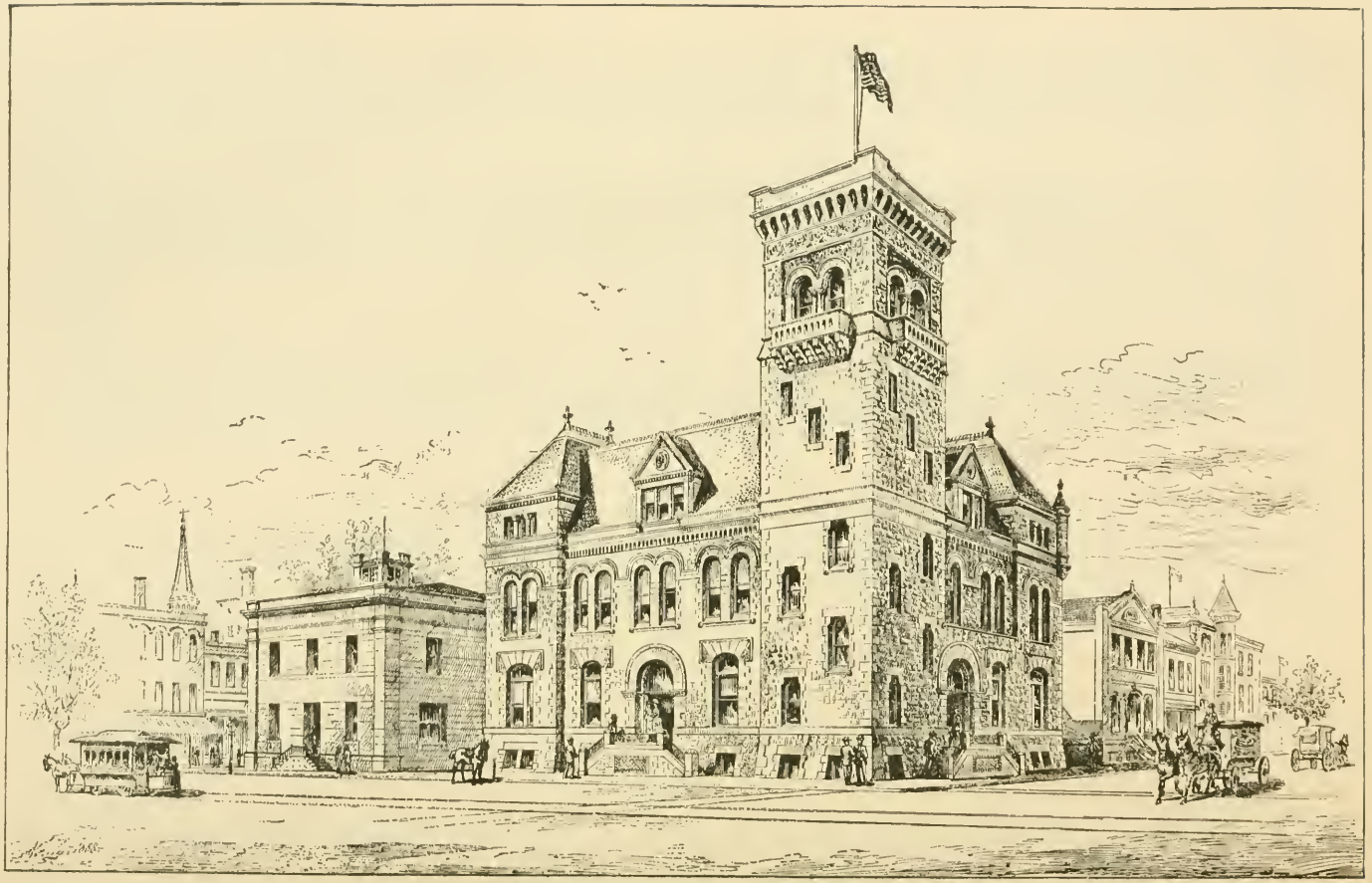
"Union street, through which I will take you as we walk home for lunch, was originally a cart path, leading from the shore to the house of Joseph Russell, the founder of the city, which stood near the present residence of the late Mrs. Charles W. Morgan, on County street. The Russell house, now about one hundred and forty years old, is still in good preservation. It has been moved from its original site and is a tenement house on Emerson street, near Kempton. The Mansion House is the old residence of William Rotch, much enlarged, however. The old yellow house at the northeast corner of Union and Bethel streets was the old residence of Isaac Howland, Jr. I can remember when the Eagle Hotel occupied the site of the large brick building known as Ricketson Block, on the southwest corner of Union and Fourth streets, and dwelling houses occupied the lots on which are situated the Eddy and Masonic buildings,—both fine, large brick structures having stores on the first floor. The Grand Opera House, on this street, was remodelled from the old Grace church. The interior of the Opera House is planned

VIEW OF WHARVES SOUTHWEST FROM YACHT CLUB HOUSE.
YACHT FLEET OFF CLUB HOUSE.

and decorated after the style of the Boston Museum, and is one of the largest and handsomest theatres in New England. It seats over twelve hundred persons.

"Purchase street is now the main business thoroughfare and here most of the dry goods houses are located. Sixty years ago there was not a single dry goods store on Purchase street between Union and Middle streets. On the east side of the street were dwellings, and north of these was a garden extending to William street. A church occupied the land on which Liberty Hall is situated. In 1845 William Bradford, who has since placed his name among the noted artists of the world, conducted a dry goods store at No. 16. The Parker House, the leading hotel of the city, is situated on the east side of this street, between Elm and Middle streets. It is of wood and was at one time the residence of John Avery Parker. It was refitted and enlarged for a hotel in 1841, and has since ranked as a first class hostelry. The other leading hotels of the city, by the way, the Mansion and Bancroft, are both excellent houses. The buildings on this street are not pretentious, for the most part, but there are several large and handsome blocks, among them the Cummings, Liberty Hall, and Wing buildings."

Lunch over, the gentlemen entered the carriage for a drive about town. The visitors were strongly impressed with the cleanliness of the streets, with the superb elm shade trees, the sidewalks of stone, and the tastefulness and richness of many of the public buildings. Among those which were particularly admired were the Unitarian church on Union street, built of native granite, which is one of the finest specimens of architecture in the city. It was built during the years 1836–38, and the original cost, including land, was $40,000. The North Congregational church on Purchase street was built at about the same time. It is of native granite also, with a frontage of sixty-eight feet and a depth of ninety feet. It is of the Gothic order of architecture, with square tower and battlements. The City hall, on the square included within Pleasant, Sixth, William, and Market streets, is built of native granite and is a handsome and substantial building. It was built in the year 1838–39, at a cost of $60,000, inclusive of land. Seth H. Ingalls, an old resident, who was the builder of the Unitarian church and custom house, also erected this building. It is surrounded by a handsome park. A fountain plays in front of the hall, and under the old elms seats have been placed.



THE PROPOSED NEW POST OFFICE.

The basement of the hall was used for many years as a market. Now a number of the city offices are located here. On the second floor is a beautiful hall in which public meetings are held. Over the stage is a fine large copy by William A. Wall of Stuart's portrait of Washington. In the third story are the meeting rooms of the board of aldermen, common council, and school committee.

The custom house building, at the corner of William and Second streets, is a most sightly public edifice of granite. It is after the Doric style of architecture and was built at a cost of $31,740, inclusive of land. On the first floor is the post office, and the offices of the customs department occupy the second. The receipts of this post office are larger than in most cities of the size of New Bedford. The government has purchased land on William street, from Second street through to Acushnet avenue, and Congress has made an appropriation for a new public building for the customs and post office, work upon which will soon be commenced. Opposite the lot designed for this new building is the edifice of the New Bedford Safe Deposit and Trust Company, which has one of the handsomest banking rooms in the city.

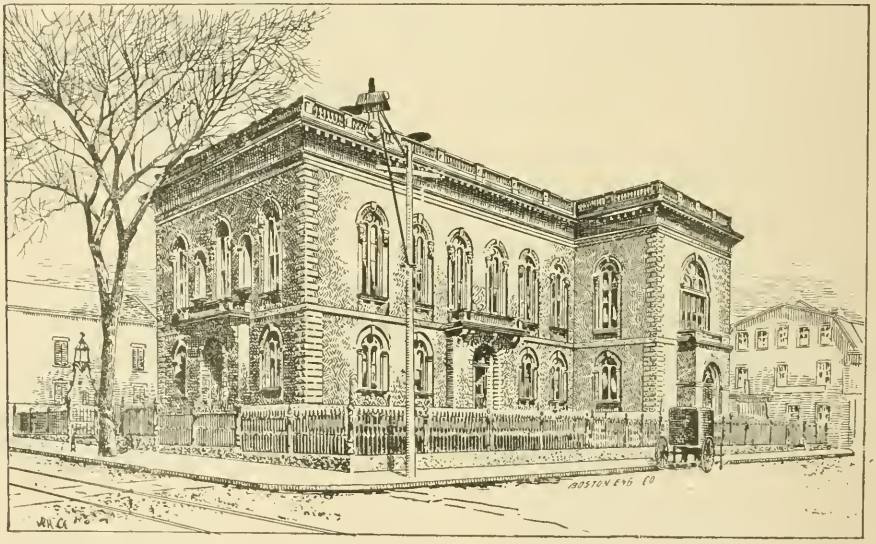
The city library building, on William street, opposite City Hall, is a beautiful edifice of brick with granite underpinning and steps and freestone ornaments. It was the first free public library established under municipal sanction. The edifice was erected in 1856–57 and its cost was about $40,000. It outgrew its original quarters and an addition on the north nearly as large as the main building has only lately been constructed.

"But a few years after the incorporation of the city," said the old resident, resuming his reminiscences, "the want of books and the inability of most of the inhabitants to procure them, led to a combination of effort for that purpose and several such combinations were formed. Among the earliest to organize such a scheme were the proprietors of Dobson's Encyclopedia, which, for the unlearned and isolated people of these times, formed quite a library in itself. The well worn volumes, which are now in the Free Public Library, bear testimony to the thoroughness with which its pages were read and consulted.

"But the desire for books outgrew the set of encyclopedias, and the Library Society and Social Library followed. Then the three societies were united under the name of the New Bedford Social

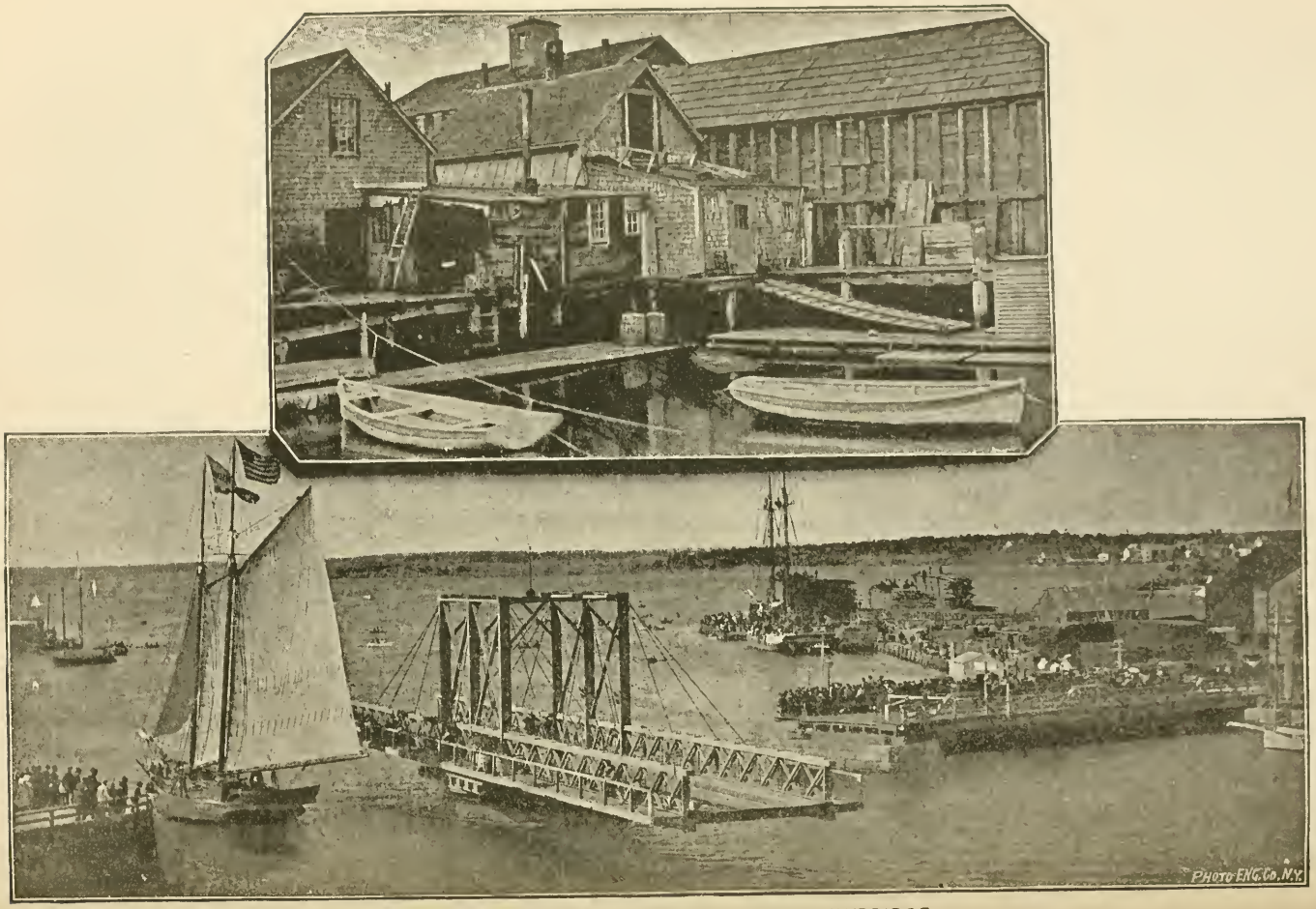
Library. For nearly a half century this collection of books was the principal source whence was supplied the desire of the people for knowledge and intellectual recreation, and it was a feature in moulding the characters of the young men and women of that day.

"May 24, 1851, an act was passed by the General Court of Massachusetts, authorizing cities and towns to establish and maintain public libraries. Forty-five days after the passage of the enabling act, Warren Ladd, who was at that time a member of the common council, introduced an order to consider the expediency of adopting the measure. The order passed the popular branch



FREE PUBLIC LIBRARY.

unanimously, but the aldermen non-concurred. Early in the following year a large petition, headed by James B. Congdon, was presented to the council, requesting the adoption of the act. The committee on public instruction, to which the matter was referred, reported recommending an appropriation of $1500 for the establishment of the library. In its report the committee stated that it had been assured that "provided the authorities should, by the passage of the order making the appropriation asked for, establish the principle that the maintenance of a free city library for the continuous education of the people will be the settled policy of the city," the five thousand volumes of the New Bedford Social Library would be transferred to the city.



REAR OF BASSETT'S FISH MARKET, AND DRAWBRIDGE.

"But meanwhile, before the presentation of the report, the appropriation bill for the year had passed, containing an appropriation of $1500 for the library. This appropriation bill was adopted July 20, 1852, and the date of its adoption is the date of the establishment of the New Bedford Free Public Library. This was the only public library established under the law of 1851, excepting that in Boston. The delivery of books commenced on Thursday, March 3, 1853. The number of volumes at the opening was between five thousand and six thousand, and the number has now increased to over fifty thousand volumes, selected mainly with a view to the needs and desires of the reading public of New Bedford, but comprising not a few books of rarity and great value. The librarian has given especial attention to the department of local history, including not merely that of this city, but embracing that of the surrounding towns. The files of local newspapers are very complete, while all books and pamphlets having even the slightest bearing on our local history are carefully preserved and classified. The reading room is an interesting place. Here, on several long tables surrounded by many easy chairs, are all the leading periodicals of the day, American and foreign, with some, of which, I venture to say, you have never heard. On neat racks along the side of the room are files of such newspapers as are most likely to interest the people of this city, and in a corner is a large book case, full of the latest and most valuable books of reference. They range from the Encyclopædia Britannica, through the field of dictionaries, gazetteers, and directories, to the United States Dispensatory and the Tribune Almanac. All these books, newspapers, and magazines are accessible to the public, without the intervention of the librarian or any assistant, and it speaks well for the appreciation in which the library is held that the privilege is rarely abused. During the thirty-six years that the library has been open, two periodicals have been mutilated and a few pencil-marked. None have been lost.

"Robert C. Ingraham was the first librarian and has officiated in that capacity to the present time, a period of thirty-six years. Much of the success of the library is due to his zeal and intelligence. The library has grown under his care to be one of the best free public libraries in the country. He knows it thoroughly and his vast store of information concerning its contents is freely placed at the disposal of the seeker for knowledge or recreation among its volumes. Four

GRACE CHURCH.

assistants are required to do the work of the library. In the year 1887, the latest for which statistics are available, forty-two thousand six hundred fifty-seven volumes were taken out; this was a decrease from the number of deliveries of the preceding year, and it is accounted for by the facts that for some months the library was closed for repairs and alterations and that the delivery of works of fiction was suspended for the purpose of preparing and printing a new catalogue.

"A number of trust funds have been established for the benefit of the library. The first was that of George Howland, Jr., its amount, $1600, being the amount of his salary as mayor for two years. The second constitutes the Charles W. Morgan fund and its amount is $1000. Then there is the Oliver Crocker fund of $1000, the James B. Congdon fund of $500, and the George O. Crocker fund of $10,000.

"The chief dependence of the trustees, however, for additions to the library, is the bequest of Sylvia Ann Howland, $50,000 of which was set apart for the library, the annual income from which is about $3000. During the delay which attended the ligitation upon the will of the deceased, the funds of the estate largely increased, and in addition to the bequest which constitutes the fund, about $10,000 was paid into the treasury of the city as interest or income, and placed to the credit of the library. The appropriation by the city barely suffices for salaries and other expenses."

Within this elegant building, on a large marble tablet, we read this noble testimony:

"This tablet commemorates the enlightened liberality of Sylvia Ann Howland, who bestowed upon the city of New Bedford the sum of two hundred thousand dollars; one hundred thousand to aid in supplying the city with pure water: and one hundred thousand as a fund for the promotion of liberal education by the enlargement of the Free Public Library, and by extending to the children and youth of the city the means of a wider and more generous culture."

She died in 1865.

In one of the ante-rooms are a number of photographs of the handsome residences of the city and also several portraits, among them a rude unfinished picture of William Rotch, to whom a large share of New Bedford's business prosperity is due, by an artist named Huckley. In the main library room hang portraits of George Howland, Jr., by Wilson, and of James B. Congdon by Eaton. There

NORTH CONGREGATIONAL CHURCH.

are also engravings from some of the celebrated paintings of the Yosemite, by Albert Bierstadt, who was once a photographer in New Bedford.

The library occupies the second floor of the building. On the first floor are the offices of the mayor, city clerk, city treasurer, city auditor, superintendent of streets, and board of assessors.

The passenger station of the Old Colony railroad, situated east of Acushnet avenue, between Willis and Pearl streets, is one of the attractive buildings of the city. Its architecture is Romanesque. The building is 159.3 by 37.8 feet in area, with walls of red face brick and trimmings of brown kibbe, rock-faced with round crandled corners, and the roofs are covered with copper-green slate. The foundation is built on piles and large square blocks of granite laid in cement mortar. The river is on the east and there is a pretty view of Oxford village opposite. On the west is a large and handsome lawn, bordered with trees and dotted with flower beds. The interior is finished with Philadelphia face brick dadoes, 3.6 feet in height with moulded cap. The walls are sheathed with moulded sheathing of brown ash and above the vertical sheathing is a plain frieze with a cornice of the same wood. The cases, desks, and the waiting room seats are of the same wood, the latter being very heavy and low, with carvings on the arms. The chandeliers, fire dogs, and brackets supporting the passengers' writing desks are of wrought iron, unique in design. There are open fire places, with tiled hearths, raised stone curbing, and large carved stone lintels.

The Grace and St. James churches (Episcopal), on County street, are each of brick and stone and are two of the finest examples of intelligent architecture in the city. The former was completed in 1881, has a seating capacity for six hundred people, and cost $47,000. In the tower is a chime of bells, ten in number, weighing over eleven thousand pounds, the gift of Stephen G. Driscol. These were rung for the first time on Christmas eve, 1882. St. Lawrence church, on County street, is a stately granite edifice, built in 1870. The tower has recently been carried to a height of one hundred feet, and, being situated on the highest ground in the city, is a prominent feature. Among other notable church edifices are the North Christian church on Purchase street, built in 1833; the Trinitarian church on Fourth street, built in 1832; the William street Baptist church, completed in 1829 and since enlarged and

partially rebuilt; the Pleasant street Methodist church, dedicated in 1849; the church of the Sacred Heart (French Catholic); and the church of St. John the Baptist (Portuguese Catholic). These latter are all of wood. The County street Methodist church, a brick edifice built in 1859, is one of the handsomest church buildings in the city. The Seamen's Bethel, on Bethel street, designed to promote the interests of seamen, was built about 1831. With it is connected a home for mariners. Both were erected by the Port Society. The Friends meeting house, on Spring street, is an unostentatious square structure of brick and the fitting of the interior is severely plain. The Friends, by the way, built the first meeting house for religious worship erected in this city.

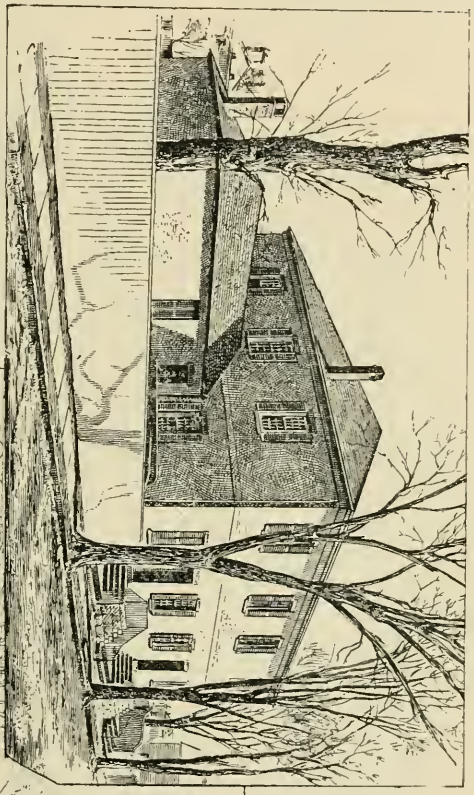
The Trinitarian Church Home, opposite the Trinitarian church on Fourth street, attracts the attention of all visitors to the city who are interested in religious effort, for its peculiar adaptation to the social phases of church work. It serves the purposes of a chapel, and its audience room on the second floor is a model Sunday school room. On the lower floor and in the basement are the parlor, supper room, and kitchen. Externally, the building, constructed of brick and wood, is of attractive appearance, and realizes the idea of a "church home."

"A long line of famous ministers has filled our pulpits," said the historian, "and among them I recall Dr. Samuel West, who preached at the Head of the River from 1761 to 1803, George L. Prentiss, Moses How, Orville Dewey, Ralph Waldo Emerson, Dr. Ephraim Peabody, J. H. Morisson, John Weiss, Wheelock Craig, William S. Studley, and Mark Trafton."

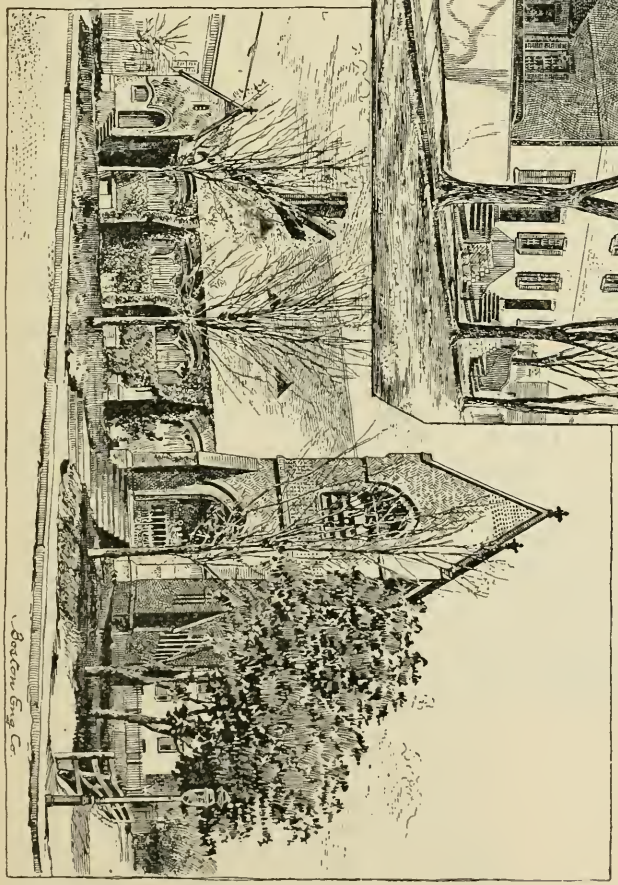
The visitors were particularly struck with the handsome school buildings, among them the High school, a model edifice of imposing proportions, occupying an entire block of land, with an area of about three-fourths of an acre, bounded by Summer, Mill, Chestnut, and North streets, a high and commanding situation, and from a distance one of the most prominent objects in the city. The building is of brick, with Amherst (Ohio) freestone trimmings and underpinning, and basement window sills of Rockport granite. It is three stories high, with a flat topped hip roof. The front on Summer street is ninety-five feet and the width ninety-two feet. The Summer street entrance is under a projecting portico twenty-one by fifteen feet and over the centre front are a tower and spire. Strangers to the city

RESIDENCE OF EBEN C. MILLIKEN.

should know that the view from the tower is extensive and fine. The Thompson, Fifth, Parker, Acushnet avenue, Maxfield, and Cedar Grove street school houses are all of brick and would ornament any city. The new Harrington school house, named in honor of Henry F. Harrington, for many years the beloved superintendent of schools, is considered a good specimen of the best class of school architecture.



FRIENDS MEETING HOUSE.



ST. JAMES CHURCH.

There are three parochial schools, two of which are connected with the Irish Catholic parishes and one with the French Catholic parish of the city. The buildings are of brick, three stories in height, and are well proportioned edifices.

Friends' academy, located between Morgan and Elm streets, west of County, is a sightly building of brick with a tower. This building was dedicated in 1857, but was subsequently enlarged and remodelled. It may be of interest and not generally known, that the old school house erected by William Rotch in 1810 was sawn in two and forms two dwelling houses, which are located on Elm street, west of the present school house. The old portico is an outbuilding on the premises of one.

There are unusually good facilities, the visitors were told, for police and fire protection. The police department numbers sixty-three officers and employes, as follows: One chief, two captains, six lieutenants, forty-seven patrolmen, five housekeepers, one janitor, and one matron. There are six stations and a lockup for women. The total number of arrests in 1887 was ten hundred ninety-three, and the annual cost in round numbers to maintain this branch of the city's business is $50,000.

The fire department has five fine brick engine houses and a ladder and hose house, six steam fire engines — five in commission and one in reserve — ready for immediate use, one aerial hook and ladder truck, two ordinary hook and ladder trucks, — one in reserve, — four two-wheeled and five four-wheeled hose carriages, one still alarm wagon, three sleigh-reels, six exercise and coal wagons, one telegraph wagon, and three sleigh reels. There are over twenty horses belonging to the department. The force consists of one chief, four assistant engineers and clerks, thirteen men permanently employed, and one hundred thirty-two call members, making a total of one hundred fifty-one men. Hydrants are established at every point where they are needed, and to which the water mains extend. In the fire alarm system there are fifty-four signal boxes and twenty-five miles of wire: eight bell strikers, eight fifteen-inch engine house gongs, seven seven-inch engineers' gongs, and three small tappers, operated by a battery of one hundred forty-seven cups. The total cost of the department yearly is about $30,000, and the value of the property in the department will approximate $125,000. Something of the effectiveness of the department can be seen by the following figures of losses for the past ten years: 1877, $26,063.66; 1878, $28,154.46; 1879, $9,163.16; 1880, $7,609.13; 1881, $26,624.96; 1882, $23,169.64; 1883, $17,398.14; 1884, $134,729.82; 1885, $6,982.41; 1886, $26,786.03; 1887, $45,141.50. Connected with this depart-

FREDERICK MACY ENGINE HOUSE, NO. 6.

ment is a Protecting Society of seventy-five members, which has done excellent work in past years.

The house of correction for the county, and the jail, are located here. A new prison building has just been completed, fronting on Ash street and extending from Union to Court streets, with a wing running easterly. The cost of the new prison building was over $80,000. It is provided with two hundred eighty-seven cells and is considered the finest prison building in the state. Advantage has been taken of all the modern improvements in prisons, the cells are large and particular care has been given to ventilation. The long term prisoners here are employed in making shoes and a new factory for this purpose has recently been built.

The city common was pointed out. This beautiful spot is in the north part of the city and is bounded by County, Purchase, Pope, and Pearl streets. The Soldiers and Sailors monument, a tasteful and appropriate structure, erected by the city at a cost of about $13,000, as a memorial to those who lost their lives during the War of the Rebellion, occupies a prominent situation here. It was designed and contracted for by George F. Meacham of Boston, and the inscriptions upon its base are as follows:

North side.

"Navy."

East side.

"Erected by the City of New Bedford, as a tribute of gratitude to her sons who fell defending their Country in its struggle with Slavery and Treason."

South side.

"Army."

West side.

"Dedicated July 4, 1866."

Two of the cemeteries, the Rural in the southwest part of the city, and the Oak Grove in the west part, are retired and lovely spots. Nature has been lavish of her gifts, and good taste and a liberal expenditure of money has added to the beauty of these final resting places for the departed.

As they rode along, the old resident called the attention of his

guests to the elaborate system of drainage which the ebbing and flowing tides make perfect and efficient; and also to the excellent city water works, constructed in 1867–69, and which cost about $1,200,000.

"Thirty years ago it was an exceedingly difficult matter to obtain a water suitable for supplying steam engine and other mechanical purposes within our city limits," said the old resident guide. "Few cities were then so poorly provided for in this respect. At that time it was a busy community. It was reaping the profitable harvest of the whale-fishery and the general appearance was one of prosperity. No one will probably ever know how much its interests actually suffered for lack of the numerous advantages accruing from an ample supply of pure water, but that they did suffer there can be no doubt.

"Public water works were not the popular institutions in those days that they have since become, and although the project of introducing water was often agitated, it was at first frowned upon by a large majority of the citizens. But as the question was more frequently discussed, and the many blessings which an abundant supply would bring to our city were pointed out, the demand for trustworthy information on this subject became more general.

"The first definite movement took form on March 8th, 1860, when an order passed both branches of the city government directing that a joint special committee be appointed to fully consider the question and to report some plan, together with the probable cost. The period from 1860 to 1865 was occupied in the examination of different schemes presented, by which this important problem could be solved. These investigations were conducted by joint committees of the city government appointed each year. Capt. Charles H. Bigelow, the engineer in charge of the construction of the fort at Clark's point, together with George A. Briggs, then city surveyor, and William F. Durfee, civil engineer, were the first to make surveys and estimates of the various sources of supply.

"The advantages of the head waters of the Acushnet river as a source of supply were soon apparent, and this conclusion was endorsed by William J. McAlpine, the eminent hydraulic engineer, whose counsel was sought in 1865. During this period Prof. George I. Chase, of Brown University, had made several chemical examinations of samples taken from the Acushnet and declared it to be a water of remarkable purity.

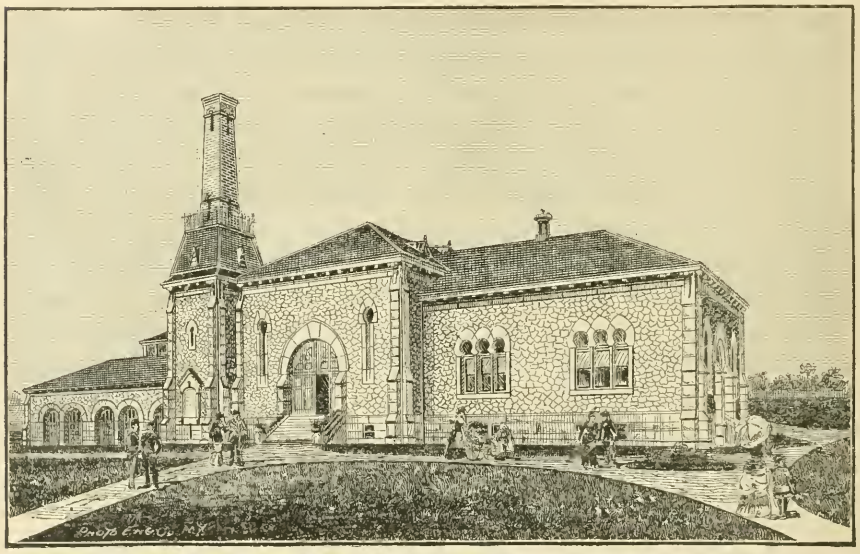
"The usual form of enactment was passed by the legislature April

SOLDIERS AND SAILORS MONUMENT ON THE COMMON.

18, 1863, and was accepted by the city on April 14, 1864. Three constructing commissioners, Messrs. William W. Crapo, Warren Ladd, and David B. Kempton, were appointed November 30, 1865. These gentlemen, together with George A. Briggs as chief engineer, and William J. McAlpine as consulting engineer, began at once with the construction of the present system of water works. This work was vigorously continued and water was first introduced into the city in December, 1869."

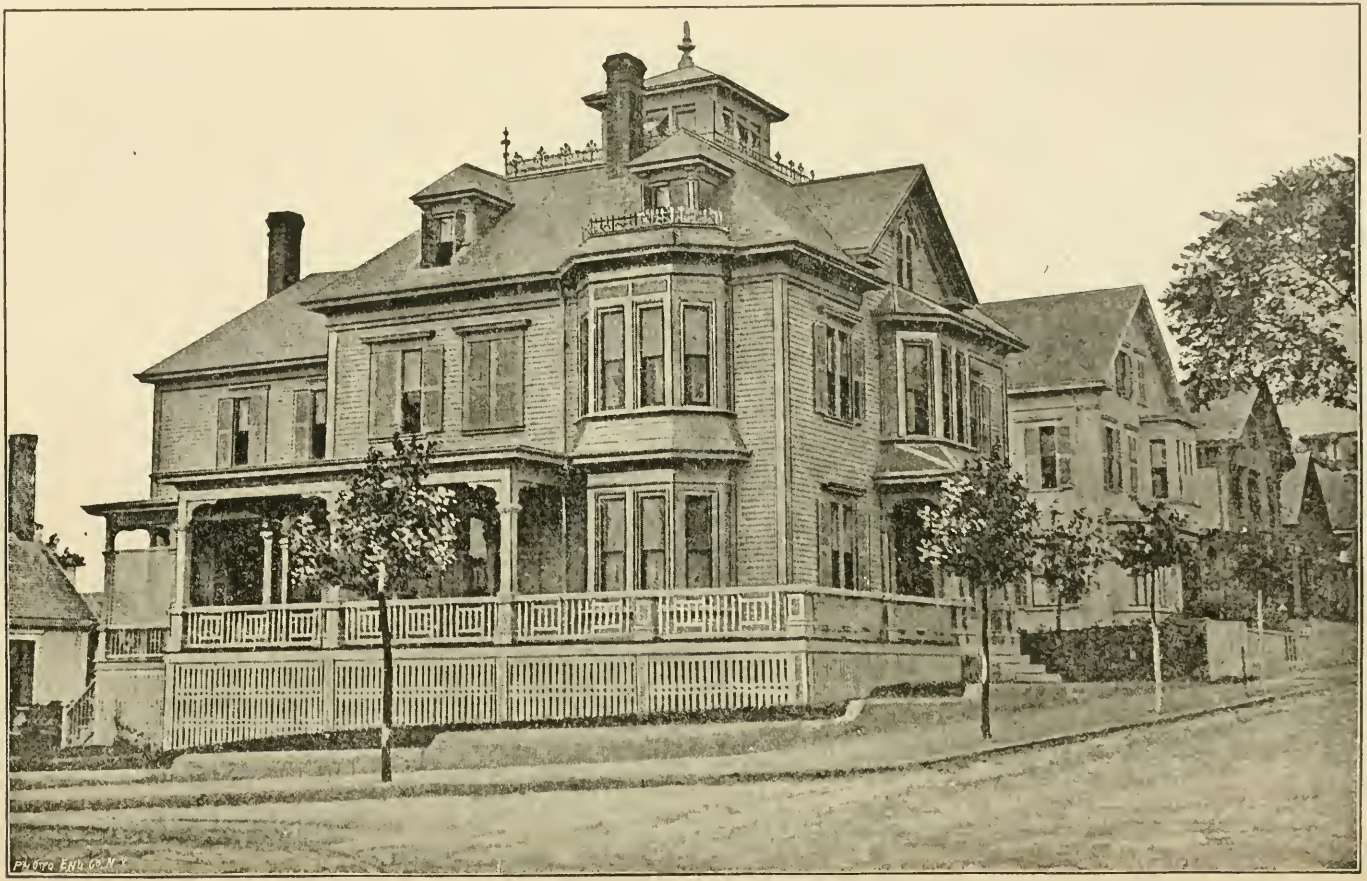
The source of supply is from a storing reservoir artificially formed by constructing a dam across the valley of the Acushnet, about seven miles north of the centre of the city. The area of water shed above the dam is thirty-three thousand acres; the area of water surface of reservoir is three hundred acres; capacity of reservoir when full is four hundred million gallons. The elevation of the full reservoir is forty feet plus the tide in New Bedford harbor. In 1886 a canal was dug permitting an auxiliary supply to the storing reservoir from Little Quittacas pond. This pond has a surface area of three hundred twenty acres and is one of the great chain known as the Middleboro ponds, and whose drainage area is estimated at thirty-five thousand acres. The elevation of the water surface of this pond is ten feet above that of the storing reservoir. Little Quittacas pond is located northerly from the storing reservoir, about two and a half miles distant from its northern borders, and twelve miles distant from New Bedford. From the dam at the storing reservoir the water flows by gravity through a single ring brick conduit. This conduit is in form of an egg shape oval. Its interior diameters are three and four feet, the lower end being a circle of three feet diameter. Its length is five and five-eighths miles. There are three overflows upon this line of conduit for the discharge of surplus water. The grade is six inches to the mile. The outlet to the conduit is into the receiving reservoir. When filled, the water has a depth of twelve feet, and its elevation is thirty feet plus tide. The capacity of the reservoir is three million gallons. The pumping station is situated about two hundred seventy feet west of the receiving reservoir and the water is conducted to the pump wells through cast iron pipes forty-two inches in diameter. As an alternative, a supply may be obtained at the pump wells directly from the conduit through a pipe thirty-six inches in diameter laid around outside the banks of the receiving reservoir. From the pump wells the water is raised a height of one hundred

twenty-four feet to the distributing reservoir. The distributing reservoir has a capacity of fifteen million gallons when filled. The water has a depth of seventeen feet and its surface is at an elevation of one hundred fifty-four feet plus the tide. In 1873 a stand pipe was erected near the distributing reservoir for use at times when it was necessary to empty the reservoir for repairs. Its internal diameter is five feet and the elevation of its top is one hundred ninety-seven feet plus tide. In 1884–85, the pumping facilities were remodelled and enlarged from plans prepared by the present superintendent, Mr. R. C. P. Coggeshall. This work involved the building of two new pump



PUMPING STATION, NEW BEDFORD WATER WORKS.

wells with the necessary connections, an addition to the engine house, and a new force main. There are three pumping engines which have a total capacity of pumping fifteen million gallons in twenty-four hours. Engine No. 1 was designed by William J. McAlpine, C. E., and was built by the Quintard Iron Works of New York. It is a vertical beam condensing engine with two vertical, bucket and plunger pumps. Its general dimensions are: Steam cylinder, 38 inches diameter; stroke, 8 feet; beam, 26 feet long: fly wheel, 16 feet in diameter. The pumps are placed one each side of the beam center. Diameter of the pumps, 28 inches; stroke, 4 feet 8 inches.



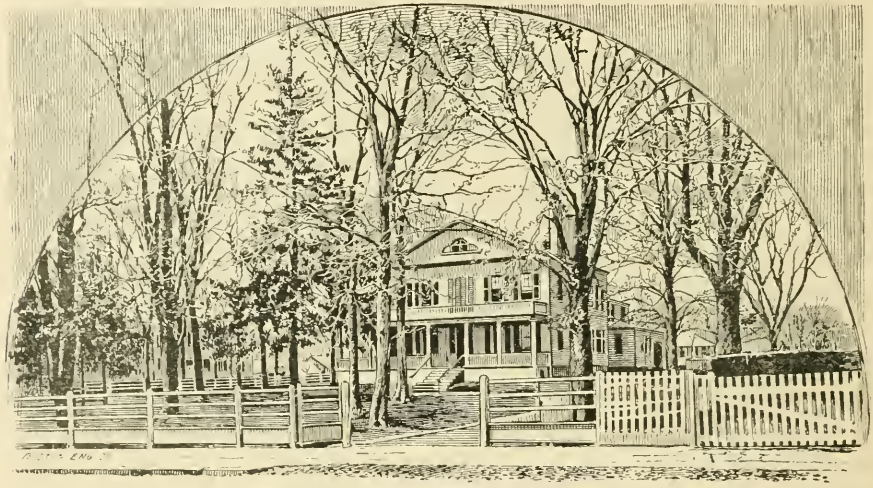
RESIDENCE OF WILLIAM BAYLIES.

The beam is supported by a cast iron hollow column which serves as an air chamber. The pumps of this engine were originally single acting, but they were remodelled as above in 1886. This engine now has a capacity of six million gallons in twenty-four hours. Engine No. 2 was erected in 1874 and was built by Henry R. Worthington of New York. It is of the well known compound duplex pattern made by that firm. The principal dimensions are as follows: High pressure steam cylinders, twenty-one inches diameter. Low pressure steam cylinders, thirty-six and seven eighths inches diameter. Length of stroke, thirty-six inches. Water plungers, seventeen and one-half inches diameter. This engine has a capacity of four million gallons in twenty-four hours. Engine No. 3 was erected in 1886. This engine is essentially the same as the well known type so extensively used throughout the country, with the addition of a device known as the high duty attachment, which allows the steam to be used expansively, and by which greatly increased economy in the running of the engine has been secured. The principal dimensions are as follows: Diameter high pressure cylinder, eighteen inches. Diameter low pressure cylinder, thirty-six inches. Diameter of plungers, twenty-four inches. Stroke, twenty-six inches. This engine has a capacity of five million gallons in twenty-four hours. For the supply of the engines there are six boilers, four being horizontal tubular boilers eighteen feet long, six feet diameter, and two being upright, thirteen feet seven inches long and sixty-four inches diameter. There are two force mains connecting the pumps with the distributing reservoir, one thirty inch diameter, one sixteen inch diameter. The engines may pump through either at discretion. The force mains are also connected with the distributing system so that the supply may be maintained by direct pumping. The distributing mains are partly of cast iron and partly wrought iron. There are fifty-four and one-third miles of pipes in use, ranging from thirty inches to four inches in diameter. Of this length about nine and one half miles are of wrought iron cement lined pipe, the rest being of cast iron. There are also several short lengths of smaller distribution pipes ranging in size from one to four inches, of which the total length is five thousand eight hundred twelve feet.

December 1, 1887, there were in use five hundred forty-seven stop gates, four hundred ten fire hydrants, five thousand four hundred ninety-five taps for domestic supply, forty-two meters for

manufacturing purposes, sixty meters for domestic purposes, and twenty-eight motors. The average daily consumption during the year 1887 was three million forty-seven thousand four hundred four gallons. The estimated total population was thirty-six thousand, and of this number thirty thousand eighty were supplied. This is at the rate of one hundred one gallons per day to each consumer, or five hundred fifty-five gallons per day to each tap.

The cost of the works to December 1, 1887, was $1,298,460.76. The bonded indebtedness is $690,000. The works are controlled by a board of five members who report to the city council. The superintendents have been the following persons: To 1871, George A.



SWAIN FREE SCHOOL.

Briggs; 1871–72, Israel C. Cornish; 1872–77, George B. Wheeler; 1877–81, William B. Sherman; 1881 to date, Robert C. P. Coggeshall. Hon. James B. Congdon acted as clerk of the board from the the commencement until 1879, since which time the position has been filled by the superintendent. The water rates here are lower than in any other city in the United States, ranging from $2.50 a year for a single faucet in a dwelling house to two and one-half cents a thousand gallons for manufacturing purposes.

"Our public schools," resumed the old resident, plunging into a new subject, "were the pioneers in the practical exemplification of the methods of instruction which now prevail." In 1821, notwithstanding

RESIDENCE OF S. GRIFFITTS MORGAN.

the fact that the wealth of the town was intensely hostile to the movement, it was voted to appropriate $1200 for the establishment of a regular system of public schools, in conformity to the laws of the commonwealth. Prior to that time there was a free school supported at public expense. It was intended for the poor alone, and, as James B. Congdon once remarked, "was in every sense a *poor* school." A movement for the establishment of a high school a few years afterwards, excited acrimonious hostility, but finally the opposition gave way and from that time forward, the schools grew more and more deeply in popular favor. In 1861 Abner J. Phipps was elected superintendent, and he was succeeded in February, 1865, by Rev. Henry F. Harrington, of Cambridge, who at once commenced a series of reforms and improvements which have secured for our schools a distinguished position. The reorganization of the primary schools, and the substitution of intelligent and attractive methods of learning in place of the old "rote" methods, were accomplished in 1865. Two years later the New Bedford Manual of Instruction was adopted, which was so well approved that it was copied entire into the volume of the reports of the State Board of Education, the following year, and thousands of copies were distributed by private subscription in the normal schools and among the school committees and teachers of the state.

In 1869 a beginning was made toward the introduction of supplementary reading in the shape of three hundred subscriptions to the Nursery. This was the first practical recognition in New England of the great principle, now so widely and heartily accepted, that it is only reading much which can confer the ability to read well. Its application has been extended to a wide range of the best literature supplied to the schools of every grade.

The school system has received an incalculable advantage through the "Sylvia Ann Howland fund," which is the fruit of a gift of $100,000 to the city by the lady whose name it bears, the income to be equally divided between the Free Public Library and the public schools. The city pays six per cent. for the use of the fund and there is a provision that no portion of the avails shall be devoted to any purpose for which the city is legally bound to provide by taxation. So the schools have an annual income of $3000, whereby the school committee can supply the best possible aids to study, through books of reference, books for supplementary reading, including the

HIGH SCHOOL HOUSE.

LOOKING SOUTHEAST FROM THE HIGH SCHOOL TOWER.

old masterpieces of English literature and the cream of contemporary authors, apparatus and cabinets for scientific illustration, museums for object teaching, maps, globes, pictures, and musical instruments. In the last year, for instance, $985 were spent for books, $1252 for music and musical instruments, including a grand piano for the High school and two organs, and $137 for chemical and philosophical apparatus. A large amount was also expended for purposes that cannot be classified.

There are twenty-six school buildings, nine of which are of brick. There is one high school, four grammar, fourteen primary, five country, two mill, and four evening schools. The total number of teachers employed is one hundred fifty-two, and five thousand fifty pupils were enrolled last year. The cost of maintaining each pupil in the High school in 1887 was $39.72; in the grammar schools, $22.90; in the primary schools, $19.65; and in the mill schools, $31.24. The total cost of maintaining the public schools was $103,777.27, of which amount $75,473.10 went for teachers' salaries.

The Swain Free School offers superior opportunities for the acquirement of advanced education. It was established through the liberality of William W. Swain, who died September 21, 1858. A bequest in his will enabled the trustees, after securing the act of incorporation March 18, 1881, to open the school October 25, 1882. A fine old house and estate on County street was included in the bequest, which amounts in its entirety to about $150,000. The school is held in the old Swain mansion, which has been fitted for the purpose. The building sets back from the street and the surroundings are very picturesque, the old house standing in the midst of a magnificent growth of trees. The studies taught are Greek, Latin, mathematics, history, geography, English, art, physics, chemistry, German, French, and Italian. Applicants for admission must be residents of New Bedford or of the adjacent towns, and must have pursued a course of study equivalent to that of our best high schools or academies. There are at present four teachers in the school and certificates have been awarded to about fifty pupils. The board of trustees comprises Lincoln F. Brigham, William W. Crapo, Edward D. Mandell, Andrew G. Pierce, George H. Dunbar, C. B. H. Fessenden, Charles W. Clifford, William J. Potter, Charles H. Peirce, Edmund Grinnell, and Francis T. Akin. Andrew Ingraham is the master of the school. Following are extracts from Mr. Swain's will:

"My hope is that the provision herein made will be sufficient for establishing and supporting a school of a high character, where the pupils may receive a thorough education upon the most liberal and enlightened principles, free of any charge of tuition.

"My intention is that the school shall never be, in any form or degree, exclusive, either religiously or politically, but open for the admission of all whose good character and condition entitle them to share in its benefits, and of this the trustees are to be the sole judges.

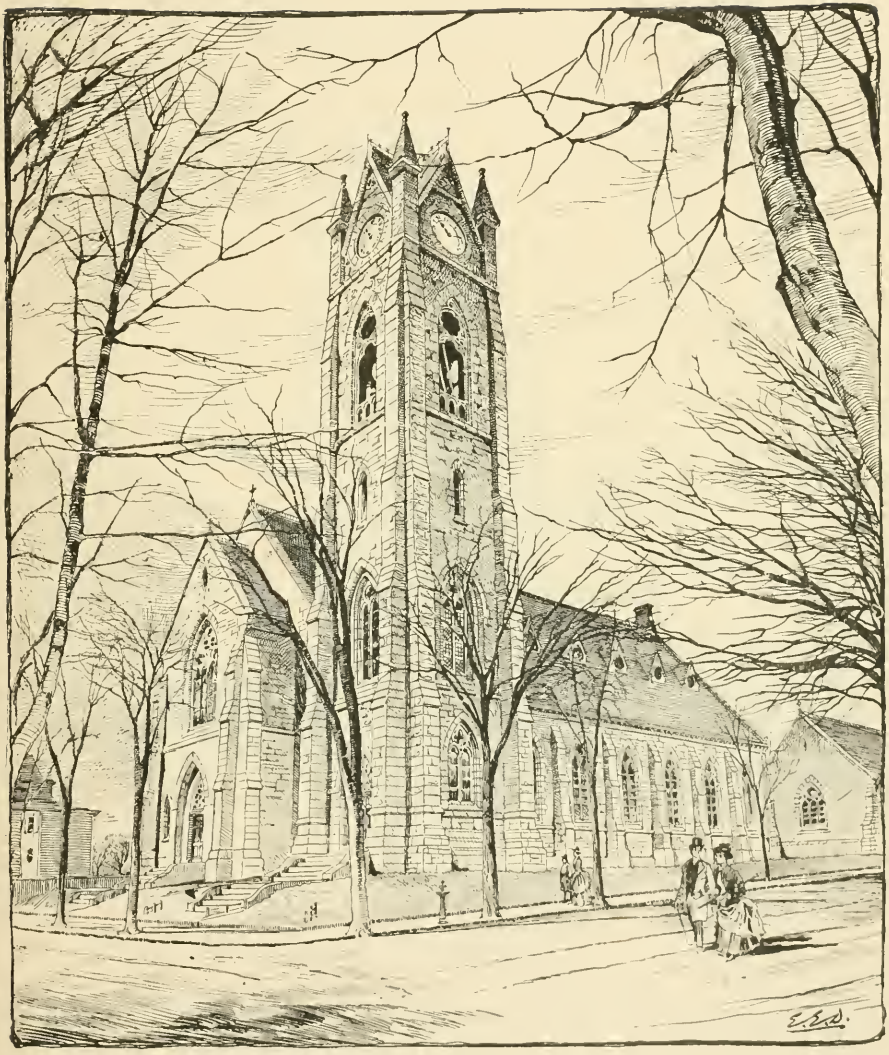
"My wish is that this class of scholars (*i. e.*, "those whose parents cannot afford to send them to our most expensive schools") have precedence in admission, leaving the decision on each individual application to the trustees, who are alone to decide thereon."

Friends' academy is a day school, located between Morgan and Elm streets, west of County. In 1810 a schoolhouse was erected at the corner of County and Elm streets in the village. William Rotch, William Rotch, Jr., Samuel Rodman, Samuel Elam, Thomas Arnold, James Arnold, Obadiah M. Brown, Samuel Rodman, Jr., Benjamin Rodman, Charles W. Morgan, George Howland, Thomas Rotch, Joseph Rotch, Joseph Ricketson, John Howland, Jr., Nathaniel Hathaway, William Swain, and Thomas S. Swain, agreed to contribute sums aggregating $14,161 "for the purpose of establishing and endowing an institution for the instruction of Friends' children and such others as it may appear hereafter, as may usefully and safely be admitted therein, in the knowledge of the languages, of mathematics, and philosophy, and such other branches of useful literature as hereafter, upon experiment, may be found within the compass and means of the institution usefully to teach." February 12, 1812, a charter was granted, signed by Governor Elbridge Gerry. The present building was dedicated May 7, 1857, and three years after it was enlarged and remodelled. It has always been an excellent school. It present master is Thomas H. Eckfeldt.

The attention of the visitors was called to the newspapers of the city.

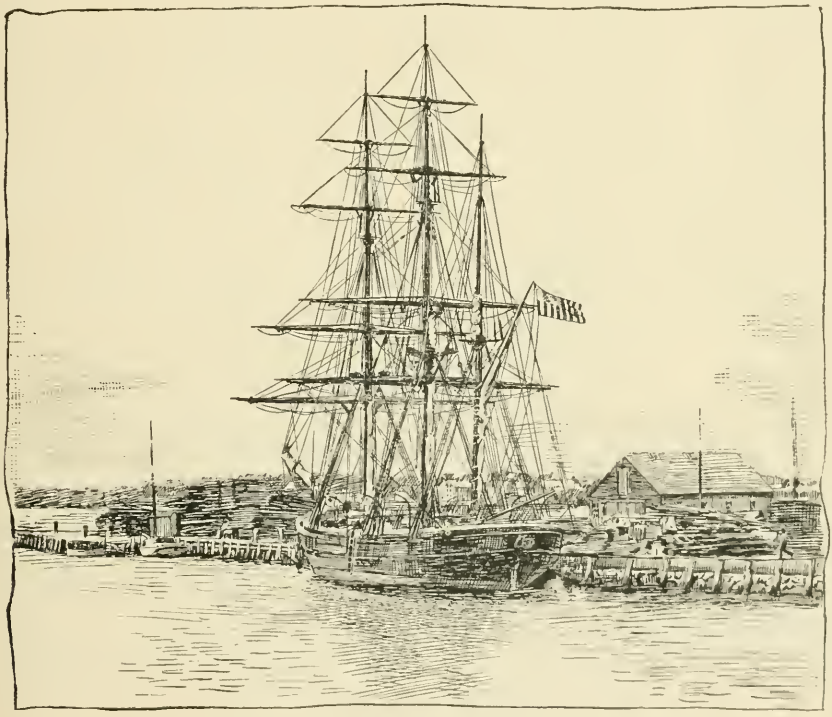
The New Bedford Mercury, a weekly newspaper, was established in 1807 by Benjamin Lindsey, who had previously worked as compositor and foreman in the printing office of the Palladium, in Boston. It was a small sheet of sixteen columns, printed "on good paper and in fair type," and the subscription price was two dollars annually. In his address to the public the editor stated that it was his wish and intention to publish a useful and, as far as resources would permit, an entertaining journal. In politics it proposed to adopt the truly

RESIDENCE OF WALTER CLIFFORD.



ST. LAWRENCE CATHOLIC CHURCH.

republican principles of Washington's farewell address, convinced that all Americans were alike interested in their support. The first issue contains "very late foreign news" and a proclamation by Thomas Jefferson. Among the advertisements in the second number was one announcing that the "stage will start from Crocker's tavern, in New Bedford, at sunrise on Mondays, Wednesdays, and Fridays, and arrive at Boston at three o'clock p. m." The founder of the Mercury conducted it alone until 1826, when his son, Benjamin Lindsey, Jr.,



UNITED STATES REVENUE MARINE BARK S. P. CHASE.

was associated with him. In 1831 they started the Daily Mercury, the first daily established in New Bedford, and the senior partner soon after retiring, the entire management devolved upon the son, who published it until July 15, 1861, when, having been appointed United States consul at St. Catherines, Brazil, he sold the newspaper establishment to C. B. H. Fessenden and William G. Baker. In May, 1876, the Mercury passed by purchase into the hands of the present proprietors, Stephen W. Booth, Warren E. Chase, and William

L. Sayer, who now conduct it as a morning paper. The weekly edition is also published by the same firm, which is known as the Mercury Publishing Company. The daily has four pages and the weekly twelve.

The Daily Evening Standard was first issued on Friday, February 15th, 1850, and was a sheet nineteen by twenty-seven inches in size. Edmund Anthony, the publisher, was a native of Swansea, and for some years carried on the printing business in Taunton, where he founded the Taunton Democrat, now the Gazette, and its weekly edition. In January, 1864, Mr. Anthony commenced the publication of the Springfield Union and July 26th of that year it was announced that the Standard would appear in the name of E. Anthony & Sons, Edmund Anthony, Jr., and Benjamin Anthony being admitted as partners. Mr. Anthony disposed of his Springfield enterprise in about two years and returned to New Bedford, where he died January 24, 1876, at the age of sixty-seven years. The style of the firm continues as before. The Republican Standard, weekly, commenced at the same time with the daily. Both the daily and weekly are eight page newspapers, large sheets of fifty-six columns.

Both of the New Bedford newspapers are conducted with vigor and spirit, and maintain a good position for character, enterprise, and ability among the journals of Massachusetts. Each of them has the news service of the Associated Press, furnished by private telegraph wires terminating in their editorial rooms, and each has an active and efficient corps of local reporters and correspondents. Several attempts to establish other papers have been made, but they have uniformly been unsuccessful.

The Whalemen's Shipping List and Merchants' Transcript enjoys the distinction of being the only paper of its kind in the world. It has been noticed elsewhere in this volume.

The old gentleman also brought to the notice of his friends the many organizations of philanthropy and reform, such as the Women's Reform and Relief Society, which maintains a temporary home at the corner of Merrimac and Pleasant streets; the Orphans' Home, on French avenue, at the corner of Cove street, which was organized in 1842 and maintains about thirty inmates; the Day Nursery, which cares for children whose parents are compelled to relinquish their care during the working hours of the day; the Young Men's Chris-

RESIDENCE OF EDWARD D. MANDELL.

tian Association and Women's Auxiliary; the Women's Christian Association; the Port Society, with its Ladies' Branch, maintaining a home and church for seamen; the Ladies' City Mission Society; the Association for the Relief of Aged Women, and the Union for Good Works. This latter is a noble institution, not only because it cares for the poor, but because it aids them to be self-reliant and self-supporting by tiding over times of need. It provides sewing or other work for needy women; it maintains a sales-room for the handiwork of the indigent or the gentlewoman reduced in circumstances, whether the work be preserves, needle-work, or anything that is salable; it has a large reception-room well stocked with the best papers, periodicals, and magazines, books, all the parlor games, etc.; it provides throughout the winter season a series of popular entertainments of high order and little cost; in short, it endeavors to lighten the burdens of those in dependence or distress, and to make pleasanter the life of those whose existence is a continuous struggle. It has the spending of about three-quarters of the income of $100,000 left by James Arnold for the aid of the worthy poor of the city of New Bedford. Besides that it has accumulated a fund of about $30,000 by donation and otherwise. This will not be touched, however, until it has reached at least $50,000. It will then provide sufficient income to meet the expenses of the Union. There are various branches of work, including the relief committee, the sewing women's branch, the fruit and flower committee, the prison committee, the hospitality section, and others. The Union is the outgrowth of a sermon preached by Rev. William J. Potter at his tenth anniversary, but it is not sectarian in any sense. Its attractive rooms are on Purchase street, in the second story of the building occupied by the Five Cents Savings Bank.

The Young Men's Christian Association, which was organized in 1867, has developed into a most prosperous and efficient institution. While it has grown slowly into public favor, it has also grown surely, and it now has a high place in popular esteem. In November of 1888, its membership had reached five hundred fifty. The rooms of the Association are in the second and third stories of the building of the New Bedford Safe Deposit and Trust Company, at the corner of William street and Acushnet avenue. A reading room and library are open day and evening, and Sunday afternoon; appropriate religious work is conducted at stated periods; two courses of lectures

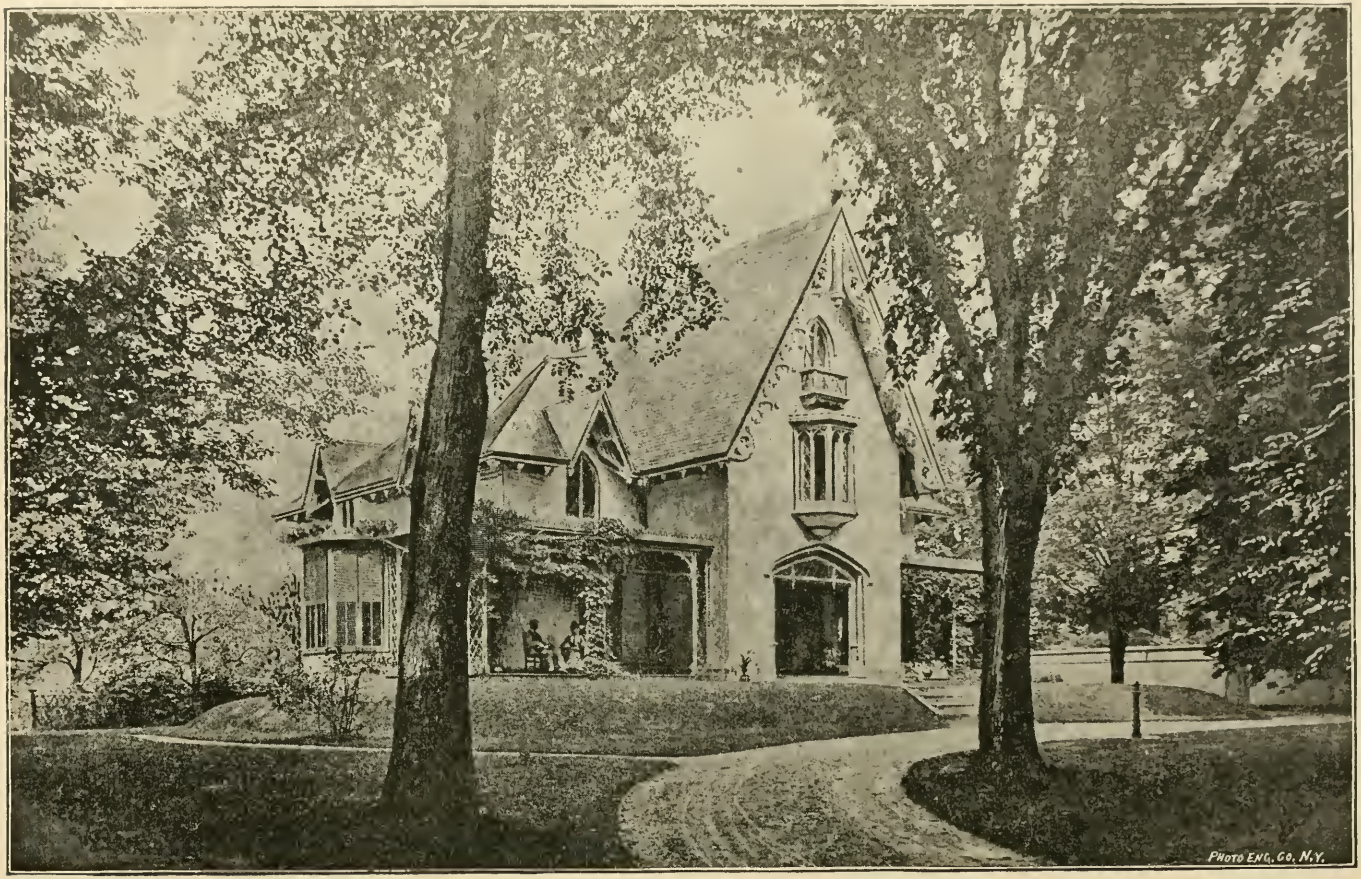
and entertainments are carried on, one for the members and one for the public; educational classes of varied nature are maintained; and various other enterprises find a place in the work of the Association. A movement is now on foot to erect for the Association a building of its own.

Then there are two excellent hospitals: St. Luke's on Fourth street, and St. Joseph's on Pleasant street. St. Luke's is comparatively a new institution. The organization was effected on the twelfth of April, 1884, though several meetings of those interested had been held previously. Soon after the organization, the lot No. 81 Fourth street was purchased, with the commodious house located thereon, and the hospital was placed in active operation. The following physicians were appointed on the medical staff: Edward P. Abbe, William N. Swift, A. Martin Pierce, Charles D. Prescott, J. J. B. Vermyne, and George T. Hough. A woman's board of management has general charge of the hospital work, which has been thus far exceedingly successful and satisfactory. The corporation has the following officers: President, Horatio Hathaway; Vice-President, Charles W. Clifford; Secretary, Edward S. Taber; Treasurer, Charles W. Plummer; with a long list of trustees. It is largely supported by the contributions of the people of New Bedford, though an endowment fund is in process of accumulation.

St. Joseph's Hospital is an enterprise of the Roman Catholic church, and was established in 1873, through the efforts of Rev. L. S. McMahon, now bishop of Hartford. St. Lawrence parish has the honor of its foundation, although it was, at the outset, assisted by many Protestants. The hospital building is admirably adapted to the work for which it is used, and under the supervision of the Sisters of Mercy, the institution has done a vast amount of good. Dr. Stephen W. Hayes is the physician in charge, and he is assisted by a medical corps including Doctors Edward P. Abbe, John H. Mackie, F. H. Hooper, George T. Hough, J. J. B. Vermyne, and William H. Taylor. The officers of the corporation are: President, Rev. H. J. Smyth; Treasurer, John McCullough; Secretary, S. W. Hayes, M. D. The hospital depends entirely upon contributions for its support.

In both hospitals patients are admitted without regard to their religious views.

Attention was also called to the electric and gas lighting systems;



RESIDENCE OF MORGAN ROTCH.

to the travelling facilities provided by the Old Colony railroad company, and to the comfortable and pleasant homes of the city, after the best methods of New England life. Above all, the climate of New Bedford is salubrious and renders it one of the most attractive residence cities in this part of the country. In summer the southwest winds blowing athwart the bay, fan the heated city to a most comfortable degree of temperature. The breeze gains strength at nightfall and the nights are deliciously cool. Nor is the city subject to extremes of cold, compared with places of the same latitude in the interior. The temperature of the water in the bay is said to be ten degrees warmer than that within Cape Cod bay.

In this connection, the following figures, furnished by Thomas R. Rodman, a local meteorologist, will be found interesting:

AVERAGE TEMPERATURE.

	Degrees F.
January, for seventy-six years	28.15
February, " "	28.89
March, " "	34.88
April, " "	44.75
May, " "	54.64
June, " "	64.05
July, " "	69.60
August, for seventy-five years	68.32
September, " "	59.25
October, for seventy-six years	52.11
November, " "	41.79
December, " "	31.89

AVERAGE RAINFALL.

	Inches.
January, for seventy-five years	3.88
February, " "	3.82
March, " "	4.16
April, " "	3.94
May, " "	3.96
June, " "	3.15
July, " "	3.36
August, for seventy-four years	4.27
September, " "	3.53
October, for seventy-five years	3.81
November, " "	4.27
December, " "	4.12

The record of the temperature commenced in October, 1812, and that of rainfall in October, 1813.

"This street has a reputation for beauty which is national," said the old resident, as he drove through County street, the driveway of which is fifty feet in width. "Many strange processions have been seen on this street. Late one September afternoon in 1775 between four thousand and five thousand British regulars landed at the foot of this avenue and the first military procession we hear of in New Bedford marched up the road to the village, burning the houses and the shipping at the wharves. Their approach was watched by the peaceful inhabitants of the old town from the housetops, by the aid of spy glasses, and as the military marched up the rough road the affrighted people fled into the neighboring country. Imagine that procession of red coated military men.

"Well, well!

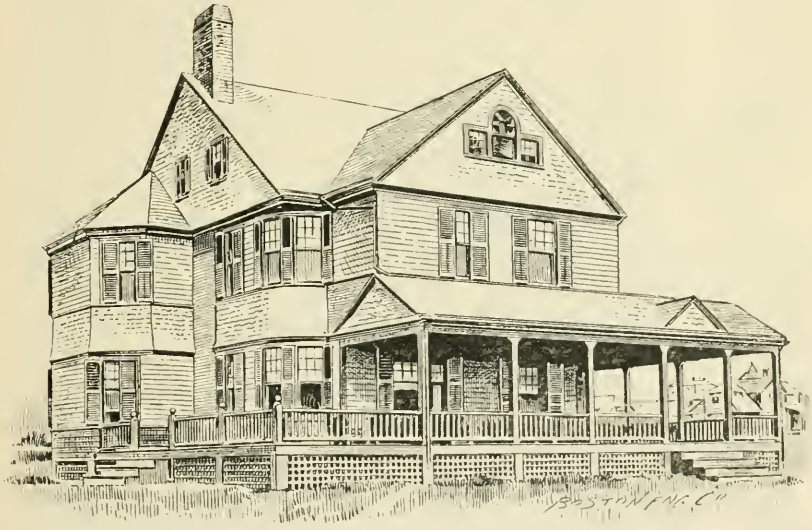
> 'The knights are dust,
> Their swords are rust,
> Their souls are with the saints we trust.'

"Then think of the old fashioned equestrian parties, starting on a journey up the road,—the gentlemen with their three cornered hats, Quaker dress, and top boots; the ladies in simple travelling dress; behind each saddle the leathern bags containing their luggage. The old street has undergone many transformations since. The dwellings which are distributed over the beautiful hill are pleasing in architecture and proportion, but the overshadowing elms, green lawns, and blooming gardens particularly arouse admiration. Among the handsomest of the older residences is the house on the east side of County street, between Pearl and Willis streets, which was the palatial residence of John Avery Parker, a prominent merchant who was identified with the prosperity of the whale-fishery, and erected by him in 1834: the mansion now occupied by Hon. William J. Rotch on the west side of the street, between Union and Arnold streets; the residence of the late Hon. Abraham H. Howland, an imposing structure of granite; and the home of the late Hon. Joseph Grinnell, for many years the president and guiding spirit in the Wamsutta mills, and to whom the honor and credit of this great industry is largely due. There are many more modern residences, which you will notice. The county court house, a building of brick, with wooden pillars, sets back from the street. In this building the registry of deeds is located.

RESIDENCE OF CHARLES S. RANDALL.

"If we drop in here for a call on the register, Hon. George B. Richmond, he will give us some figures indicating a boom in real estate hereabouts. The registry includes New Bedford and the towns of Acushnet, Fairhaven, Dartmouth, and Westport. The first deed here was recorded July 1, 1837. The number of instruments recorded in the office have been as follows: 1838, 648: 1870, 1123; 1875, 1265; 1880, 1482, and in 1887, 2396.

"At the southeast corner of County and William streets stands a house now occupied by George F. Bartlett, which was the residence of Sylvia Ann Howland. It was built for Thomas Rotch, a son of



SUMMER HOME OF GEN. PHILIP H. SHERIDAN AT NONQUITT.

William Rotch, Jr., and after his death his sister, who married Charles Fleming, occupied it. They are said to have given the first dancing party ever held in a private house in New Bedford. This was about fifty years ago.

"And if we turn through Arnold or Orchard or Cottage streets, and drive out on Hawthorn, you cannot help agreeing with me that this part of our city constitutes a perfect park. The residences are many of them of the popular Queen Anne order of architecture and the surroundings are most picturesque.

"And now we will take the Point Road drive, which is so famous I think you must have heard of it. Clark's point, you know,

is a strip of land projecting into the waters of the bay. Around this point, Mayor Rodney French built a driveway eighty feet in width, in 1853, at a very large expense and it has since been kept in the best of repair, $20,000 having been expended upon it by the city government within five years. The road is three and one half miles in length and about one third of it is macadamized. He who takes this drive for the first time is sure to be enchanted by the scene, and it has so much variety, such deliciousness in curve and winding, such graciousness in the union of sea and shore, and such charm of color, that increased acquaintance makes one more in love with it than ever. The river is on the east and a cove makes up on the west, while the bay opens before us. The sparkling water, the white sails, and the breath of the field and shore, fill one with exaltation; you not only see the beauty of the place, you smell it and breathe it. At the junction of Cove street with French avenue is the Orphans' Home. The name of the institution indicates its purpose and it is one of the most worthy and blessed of our institutions. On summer evenings the avenue is resorted to by the owners of fast horses, and exciting brushes add to the interest of a drive around the point. The red roofed towers which we see on the west shore of the bay mark Nonquitt. It was here that Gen. Phil Sheridan spent the summers of his life and here he died. Miss Louisa M. Alcott also spent several summers at Nonquitt and Robert Swain Gifford, the artist, has a studio and summer home overlooking the bay. At our left, as we drive down the west side of the avenue, is Woodlawn grove, a remarkably pretty spot controlled by the street railway company. There are bathing houses opposite, and as the street cars run down to this point, the grove and beach are much resorted to here. Here and there you will see a pretty cottage among the trees, but for the most part there are simply stretches of green fields and grove."

"Why is it that so lovely a spot has not been bought up for summer homes?" was asked.

"Couldn't say for the life of me. Land is cheap and nothing seems to be lacking to make this an ideal abiding place during the heated term. Look at that bit of shore. Where can you find anything more picturesque than that clump of gnarled oaks with their background of blue sky and water and green landscape on the opposite shore?

"On the end of the point is a granite fort, commenced during

RESIDENCE OF REV. HENRY M. DEXTER, D.D.

the rebellion, but never quite completed. It was planned after Fort Sumter and was garrisoned during the war. Now a sergeant and a few men are in charge. The tower of a lighthouse remains, but the light has been removed to the parapet of the fort. You may be interested to know that the first lighthouse was built here about the year 1800. It was a wooden structure and at the raising a hundred-gallon trypot of chowder was prepared. This house was destroyed by fire during a tempest one night.

"Buzzards bay is now before us. It was discovered by the Northmen in the tenth century and by them named Straumfiord, which means, when liberally translated, Bay of Currents. Subsequently it was discovered by Gosnold in 1602 and named Gosnold's Hope, and by the early settlers of Dartmouth it was named 'Buzzards bay,' probably from the fish hawks which abounded. In the distance, lying blue against the horizon, are the Elizabeth islands, sixteen in number, the principal of which are:

Nashawena, Pesquinese,
Cuttyhunk and Penekese,
Naushon, Nonamesset,
Onkatouka and Wepecket.

"Driving back to the city along the east side of the point, the Acushnet river is on our right. On the left the city almshouse is located, a fine, large building of granite, surrounded by a fine farm of many acres. Strangers invariably inquire who owns that imposing residence. There are also a number of pretty residences, but plenty of available building sites. The view of the city and Fairhaven from this point is very delightful."

Finally, the visitors were driven to Acushnet Heights, as the northwest portion of the city is called. Here are some of the finest private residences in the city, and the view of the river, the harbor, the bay, and the adjoining shores, villages, and islands, is one of the most beautiful in the country. The view from this point is said to have excited the admiration of Washington Irving when on a visit to this city.

Acushnet is a little village usually known as the Head of the River, about three and a half miles in a northerly direction from City hall. The westerly part is on the New Bedford side of the river and the easterly part is on the Fairhaven side. A short bridge connects

the two shores. The old mill dam at this point is very picturesque. It was the first stopping place on the old post route to Boston. East of the Long Plain road, in this town, stood the only block house ever built in this vicinity. It belonged to Thomas Wood, the father of the late Henry T. Wood, and was built about two hundred and fifty years ago. It was sketched by a local artist named Hitchings, and a photograph of the drawing is preserved in the library building. Other adjoining towns are Dartmouth, Westport, and Freetown, pleasant villages, whose history is closely identified with that of this city. In the former town, as well as in the north part of Fairhaven and Acushnet, stood some of the first houses ever built by white men in this vicinity, the ruins of which still remain.

At dinner that night the host apologized for doing so much talking, saying his excuse was that he wished them to use their eyes while he poured his inadequate words of praise into their ears. Then he hinted that he would like to hear their impressions.

The recital rewarded the old man for his trouble. The New Yorker expressed the conviction that the city can not be rivalled by any summer resort in the land, and said he proposed to have a cottage by the sea, somewhere on Clark's point, before another summer.

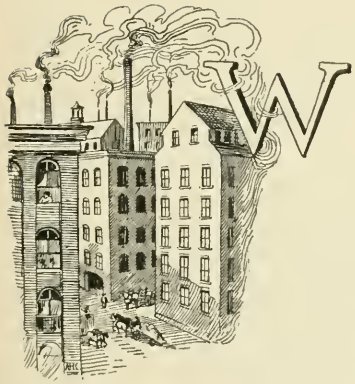
The business man spoke unreservedly of the favorable impression he had received of the facilities which New Bedford offers for manufacturing.

Both commended his public spirit and expressed the opinion that New Bedford people must have kept the advantages of their charming city very much to themselves or it would long ago have been famous for something more than the bygone industry of whaling.

RESIDENCE OF MRS. LILLIAN A. TAYLOR, "THE ELMS."

CHAPTER IV.

INDUSTRIAL AND FINANCIAL.



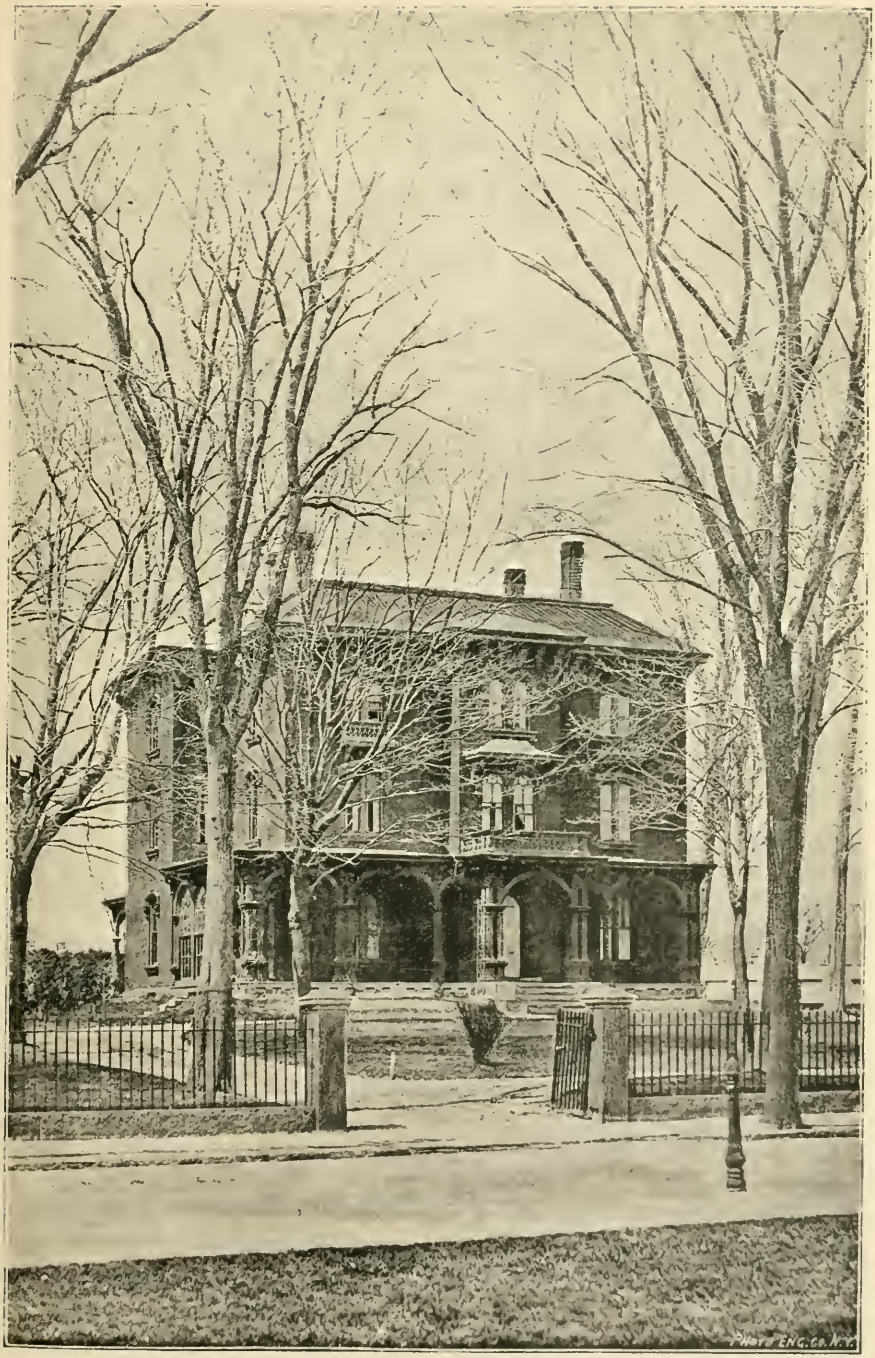
WHEN John Loudon, a caulker, came from Pembroke to the shores of the Acushnet river, in 1760, to engage in the building of ships, the foundation of New Bedford's mechanical industries was laid. Previous to that time an occasional lonely farmhouse on the County road, a "try-house" near the shore, and a few small sloops in the harbor were the only evidences of industrial activity. But this enterprising caulker, seeking a field for the expansion of his energies and the bettering of his fortunes, set an example which was closely and quickly followed by Benjamin Taber and John Allen and Barzillai Myrick and Gideon Mosher and Elnathan Sampson, every one of them mechanics, who at once were established in their various branches of industry and who prospered with the growth of the village. From that day to this, first Bedford and then New Bedford has always been a place of busy and varied manufactures. The course of events at first led its industries into channels which were tributary to New Bedford's great enterprise,—the whale-fishery. But those who have not closely studied the subject have no adequate idea of the variety and extent of mechanical pursuits made necessary by the first great business of the place. Of shipbuilders, riggers, sailmakers, carpenters, blacksmiths, painters, boatbuilders, caulkers, coopers, and blockmakers there was a mighty array, while few towns could ever boast of so many superior skilled mechanics,

—men who were princes in their calling and whose names were known the world over as those of craftsmen without reproach. A cordage factory was built here at a very early date. It was burned by the British troops in 1778. But another must have taken its place soon after the close of the Revolution. Oil refineries and candle factories were numerous and thriving, and minor industries were never lacking, even when the city was apparently engrossed in the pursuit of whales in every ocean on the globe. It was not so difficult to turn to manufacturing when the whale-fishery found itself confronted with well-equipped competition. The people of New Bedford had been drilled to work with hand and with brain. They were of an industrial race. They turned hopefully to meet new conditions, and attacked the problem of their future with faith and courage. Thus out of the humble shops of those artisans of the long past have grown the splendid factories of the present and the budding enterprises of the future. In the pages which follow the reader will find depicted the industrial New Bedford of 1888.

As a prelude to the detailed survey of New Bedford's business interests, the reader is invited to a glance at the following interesting tables, kindly furnished by the Massachusetts Bureau of Statistics of Labor, in advance of their publication in any other form. They are from the forthcoming report of the manufacturing census of 1885, and are the latest available statistics of this character to be had. It should be remembered that since they were gathered, several new cotton mills have been erected, and that other enterprises have been established.

Number of establishments,	420
Capital invested in land,	$507,127
in buildings and fixtures,	2,826,629
in machinery,	5,101,580
in implements and tools,	369,351
in cash,	4,799,194
in credit: supplied by partners or stockholders,	92,084
in credit: notes on long time, etc.,	1,373,730
Total capital invested,	$15,069,695

Stock used:	
Brick, stone, etc.,	$129,746
Coal and wood (fuel),	156,997
Findings and trimmings,	18,914



RESIDENCE OF JONATHAN BOURNE.

Stock used—*Continued.*		
Food materials	$177,947	
Leather	300,935	
Lumber	230,296	
Iron and iron goods	105,948	
Other metals and metallic goods	340,120	
Paints, oils, colors, chemicals, etc.	458,464	
Paper and paper materials	31,009	
Wooden goods	54,175	
Cotton (raw)	2,248,554	
Wool (raw)	180,000	
All other textile materials (raw)	470,700	
Cotton goods	43,820	
Woollen and worsted goods	61,825	
All other textile goods	30,411	
Other articles specified	1,026,934	
Total	$6,066,805	
Goods made and work done:		
Boots, shoes, and slippers	$751,240	
Building, building materials, and stone work	887,508	
Clothing and straw goods	292,324	
Food preparations	390,783	
Iron goods	269,675	
Other metallic goods	980,000	
Leather	50,870	
Paints, colors, oils, chemicals, etc.	911,880	
Paper and paper goods	33,500	
Printing and publishing	295,248	
Textiles	5,343,779	
Wooden goods	333,718	
Wood and metal goods	280,213	
Other goods specified	514,032	
Total	$11,334,770	
Persons employed (both sexes):		
Males:		
Under 10 years of age	3	
10 and over, under 14	57	
14 and over, under 21	1105	
21 and over	4660	
Total		5825
Females:		
Under 10 years		
10 and over, under 14	44	
14 and over, under 21	1195	
21 and over	1681	
Total		2920
Total number of persons employed (both sexes)		8745

Salaries paid	$205,408
Wages paid	$3,085,268

Principal occupations:

Males:

United States postal department service	21
Other national government service	26
City police department service	52
City street department service	22
Other city government service	61
Clergymen	35
Lawyers	34
Physicians and surgeons	42
Boarding and lodging house keepers and employés	30
Hotel keepers and employés	55
Restaurant keepers and employés	25
Saloon keepers and employés (liquor)	25
Coachmen (in families)	36
Servants (in families)	47
Barbers and hairdressers	67
Scrubbers and cleaners (in mills)	18
Stationary engineers and assistants	32
Watchmen	37
Merchants and dealers	578
Salesmen	126
Book-keepers and clerks	535
Agents	51
Bank officials and employés	39
Brokers	20
Laborers and helpers (in stores)	21
Boarding and livery stable keepers and employés	74
Carriage and hack drivers	23
Drivers of delivery wagons	21
Express company officials and employés	34
Horse railroad officials and employés	60
Teamsters	206
Steam railroad officials and employés	143
Master mariners (sailing)	50
Mariners (sailing)	242
Steamboat officials and employés	41
Stevedores	20
Farmers	53
Farm laborers	128
Florists	25
Gardeners and assistants	61
Fishermen	45
Drill makers	52
Boot and shoe makers	322
Carpenters	484
Masons	184

RESIDENCE OF SAMUEL IVERS.

Principal occupations, males — *Continued.*	
Painters,	185
Plumbers,	24
Carriage blacksmiths,	20
Carriage painters,	43
Carriage trimmers,	18
Carriage makers (not specified),	39
Tailors,	58
Cordage factory operatives,	154
Cotton mill operatives,	2126
Bakers (bread, cake, and pastry),	62
Upholsterers,	17
Glass works employés,	148
Harness makers,	22
Machinists,	156
Blacksmiths,	98
Britannia workers,	39
Copper workers,	58
Gold workers,	42
Iron workers,	51
Tin workers,	28
Oil makers,	26
Photographers,	20
Compositors and printers,	51
Boat builders,	18
Calkers,	20
Sail makers,	27
Ship carpenters,	33
Stone workers,	47
Cigar makers,	20
Coopers,	49
Picture-frame makers,	193
Woollen mill operatives,	64
Laborers,	800
Apprentices,	67
Scholars and students,	2340
Children at work and at school,	88
Retired,	441
Not given,	220
Dependents (private support),	24
At home,	1974
Other occupations,	1200
Total,	15,413
Females:	
Music teachers,	32
Teachers,	145
Boarding and lodging house keepers and employés,	33
Hotel employés,	14
Restaurant keepers and employés,	18

Principal occupations, females — *Continued.*

Housekeepers (in families)	68
Housewives	6659
Housework	1421
Servants (in families)	822
Laundry work	87
Nurses	66
Saleswomen	51
Book-keepers and clerks	97
Boot and shoe makers	67
Dressmakers	353
Milliners	48
Seamstresses	44
Shirt makers	28
Tailoresses	66
Cotton mill operatives	1898
Metal burnishers	18
Picture-frame makers	44
Woollen mill operatives	32
Scholars and students	2466
Children at work and at school	58
Retired	115
Not given	699
Dependents (private support)	75
At home	2092
Other occupations	364
Total	17,980

It may be of interest to compare the census reports of 1880 and 1885, as a means of giving some idea of the progress of the city. The figures are tabulated for the purpose of easy comparison:

	1880.	1885.
Number of establishments	297	420
Number of employés	5,507	8,745
Wages for the year	$1,907,773	$3,085,268
Capital invested	$7,143,507	$15,069,695
Stock used	$5,256,269	$6,066,805
Value of product	$8,880,384	$11,334,770

The pages following are devoted to histories and descriptions of manufacturing and other enterprises which have a home in New Bedford.

RESIDENCE OF MRS. EDWARD T. TABER.

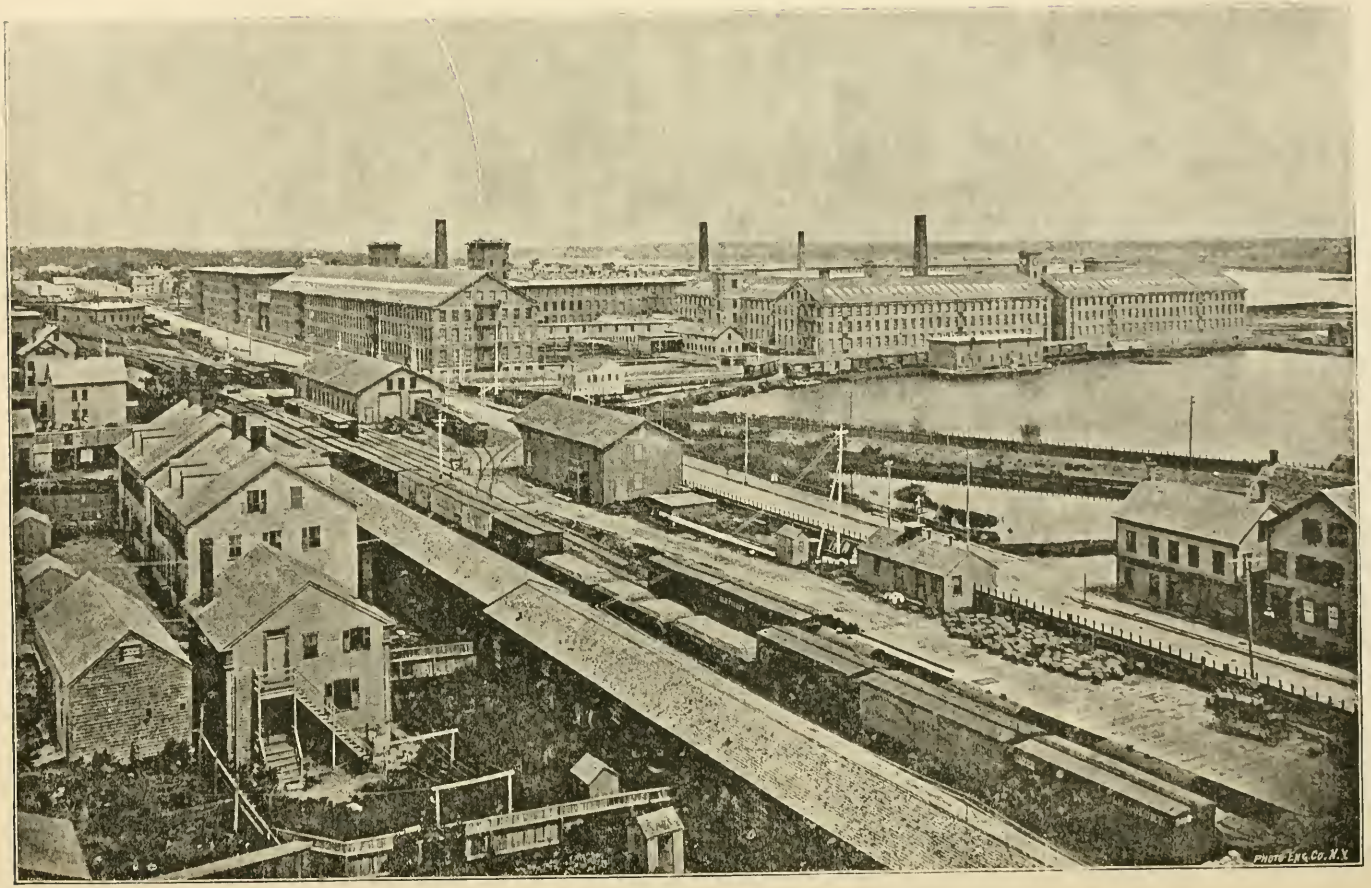
COTTON MANUFACTURING.

New Bedford stands third in the number of spindles in operation among the cotton manufacturing cities of the country, being exceeded by Fall River and Lowell only. In the number of looms she is fourth, Manchester, N. H., in addition to the cities just named, outranking her. Her mills are among the best examples of their class in architecture, construction, and equipment, while the quality of their products has no superior in this country or in any other. Labor troubles have been infrequent and usually unimportant, and the toilers in New Bedford's cotton mills are ranked as the best of workers in the textile industries. It has not been the policy of New Bedford's business men to confine their city's enterprises to one class of industries, but the manufacture of cotton goods now holds the first place in extent and importance.

Possibly not another cotton factory on the globe has sent the renown of its name into so many homes in so many widely separated regions as the Wamsutta mills. The policy of its management to make the best goods and the best only, continued for almost half a century and never for one moment relaxed, has placed its products in the highest place among the textile manufactures of the world.

Yet, when this magnificent enterprise was first mooted, a noted cotton manufacturer of another city, a very estimable gentleman, though not altogether far-seeing, remarked in a semi-sarcastic way that he "would write the history of the Wamsutta mills and put it in his vest pocket." The complete history of the Wamsutta mills would fill many printed pages. We can glance but hurriedly at its chief points of interest. Back in the 40's, Dwight Perry, who was from Fairhaven, had a small cotton mill in one of the southern states. Thomas Bennett, Jr., a young man also from Fairhaven, who was employed in the mill, perhaps foreseeing something of the stupendous future of the cotton industry of America, became desirous of being at the head of an enterprise of his own. Not having sufficient capital at his command, he came to New Bedford, where he hoped to raise the funds. The late Joseph Grinnell of this city was at that time a member of congress, and he was naturally appealed to for aid and influence. It appears that Mr. Grinnell was at first somewhat favorably impressed with the idea of establishing the factory at the south. But as he considered the subject he became satisfied that this was not the better plan.

Possibly he may have looked forward to a time — then unthought of by most dwellers in New Bedford — when the whale-fishery must be content to take a second place as an outlet of enterprise. Perhaps the mutterings of the coming deadly struggle over the question of slavery influenced him to look with disfavor on the south as a field for the investment of northern capital. At all events, he finally asked: "Why not locate this mill in New Bedford?" So far as he was concerned, at least, he practically answered his own question by insisting that it must be located in New Bedford, if he was to be expected to aid it. Thus it came to pass that the Wamsutta cotton mill was established in the city whose chief thought at the moment was the fitting of whaleships and the capture of whales. But with the decision to build a cotton mill in New Bedford, the work was only begun. It was not easy to secure subscriptions to the capital stock, though its total amount was fixed at only $160,000. Men did not understand it; they did not know about it; they cared nothing for it; they did not believe in it. Fall River was rising into prominence as a cotton manufacturing city, but the idea was something strange to New Bedford. The original subscription list, short and formal as it is, reveals something of the doubt with which the plan was regarded. Most of the subscriptions were for small amounts,—evidently to "help the thing along" out of friendship for its projectors. Among the names on the list for the largest amounts are those of Gideon Howland, Sylvia Ann Howland, Thomas Mandell, Ward M. Parker, David R. Greene, Latham Cross, and Grinnell, Minturn & Co., of New York. The only subscribers on that list who are now living are Jonathan Bourne, John R. Thornton, Thomas Bennett, Jr., and William J. Rotch. Most of the leading men of New Bedford were represented, but it was rarely that one individual subscribed for over ten shares, and the largest number for any one was one hundred fifty. In passing, it is just to say that to the untiring labor of the late Edward L. Baker in persistently seeking additions to that first list of subscribers, is due in large measure the successful establishment of the enterprise. He was indefatigable in the work and gave to it his best energies. On the 8th of April, 1846, the Massachusetts legislature granted a charter to the new corporation, Matthew Luce, Jireh Perry, and Thomas S. Hathaway being named as the incorporators. Shortly after, the organization was effected with officers as follows:



WAMSUTTA MILLS.

President—Joseph Grinnell.
Treasurer—Edward L. Baker.
Directors—Joseph Grinnell, David R. Greene, Thomas Mandell, Joseph C. Delano, Pardon Tillinghast.

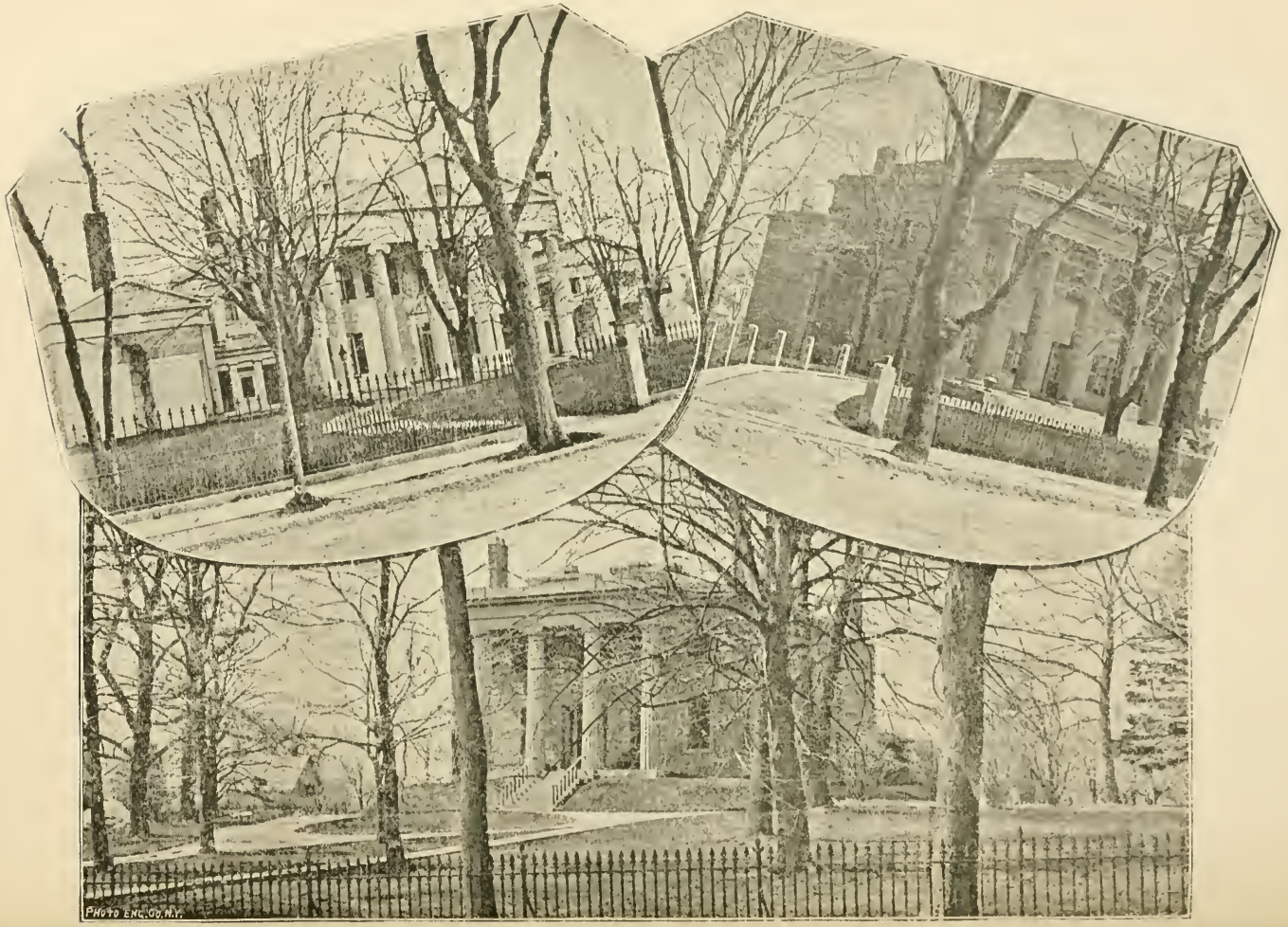
Thomas Bennett, Jr., was elected superintendent. Under his management, first for a few years under the title of superintendent and then for many years as superintendent and agent, the factory grew to include four great mills and earned its splendid reputation in the markets of the world. Mr. Bennett gave to the work of building up the enterprise, well-trained faculties, a marvellous executive ability, and a determination to be excelled by nobody. He carried his manifold burdens well and he is preëminently one of the men to whom the Wamsutta corporation owes its immense success. Mr. Bennett continued as superintendent and agent until the spring of 1874, when he was succeeded by Edward Kilburn, who continued in that position until the summer of 1887. Mr. Kilburn was in turn succeeded by Edward R. Milliken, who held the position for a few months only. On the first of January, 1888, William J. Kent assumed the duties of agent, which office he now holds.

Mill No. 1, a stone structure, two hundred twelve feet by seventy feet, with five floors, was commenced in 1847. Its architect was Seth H. Ingalls of this city. Mr. Bennett assumed the active management at once, with David Whitman of Rhode Island, a celebrated mill engineer, as an adviser. These gentlemen recommended the manufacture of the standard shirtings which have made the reputation of the mills. In 1848, work was begun in the mill, and the first cloth was made in February of 1849. At that time there were fifteen thousand spindles and two hundred looms. An extension of the mills came to be demanded within six or seven years by the increase of business, and about 1854, another four-storied building, with attic, two hundred forty feet long by seventy feet wide, was erected immediately adjoining the original mill. It was equipped with sixteen thousand spindles and three hundred looms. Soon, however, the product of the two mills was absorbed by the market, and the demand for more was urgent. Accordingly, in 1860, a duplicate of mill No. 2, with sixteen thousand spindles and three hundred looms, was put in operation. In those days the three stone mills, with their forty-seven thousand spindles, seemed an enormous establishment, and many men wondered if it were wise to attempt to carry on so immense

a business. But less than ten years later it was found necessary to erect a mill which of itself almost doubled the capacity of manufacture. This was mill No. 4, begun in 1868. It is of brick, with granite foundation, four hundred ninety-five feet long, seventy-five feet wide, and four stories high, with attic. This mill contains thirty-eight thousand spindles and eleven hundred looms. Seven more years passed, and in 1875, No. 5 mill came into being. It stands on a line with No. 4, with which it is substantially uniform, though its dimensions differ somewhat. Its length is four hundred thirty-three feet and its width ninety-three feet. In it were placed fifty thousand spindles and one thousand looms. In 1874 fourteen thousand spindles had been distributed among the various mills then existing, so that when mill No. 5 was completed, the entire number of spindles set in motion was one hundred fifty thousand. Yet even these failed to satisfy the still increasing demand. In 1881-82, No. 6 mill was built of brick, three stories high, five hundred sixty-nine and one-half feet long, and ninety-five feet wide. It contains fifty-one thousand spindles and one thousand seventy-two looms, and within its walls are employed six hundred workers. With its completion the whole number of hands employed by the corporation was brought up to twenty-six hundred. Over two hundred three thousand spindles and nearly forty-five hundred looms are in operation.

The magnitude of the motive power required to move the innumerable machines in the six great mills is almost beyond imagination, even when aided by figures and descriptions. There is one single upright beam Corliss engine of three hundred horse power, one pair of engines of eight hundred horse power, one pair of eleven hundred, and one monster pair of two thousand horse power. Visitors to the centennial exposition at Philadelphia in 1876 will remember the great engine which was among the marvels of that collection of wonders, but though they could scarcely comprehend it, at that very time a larger engine was running in New Bedford. This enormous piece of machinery has a stroke of ten feet; the weight of its fly wheel is about fifty tons, and other parts are in like proportion.

The products of the Wamsutta mills are some seventy or eighty varieties, in all grades and widths, of fine shirtings, cambrics, muslins, lawns, momie cloth, sateens, and cretonnes, and bleached and brown sheetings, plain, twilled, and double warp, in all widths up to one hundred twenty-four inches.



RESIDENCE OF THOMAS BENNETT, JR.

THE A. H. HOWLAND RESIDENCE.

THE JOSEPH GRINNELL RESIDENCE.

Of the quality of Wamsutta shirtings and sheetings it is hardly necessary to speak. Beginning with a high standard, it has been the constant aim not only to maintain it but to elevate it. During the war, when so many manufacturers sacrificed their good reputations by abandoning their standards and trying to make the most cloth possible with the least cotton, the Wamsutta scrupulously kept up the quality of its goods in every particular. These goods alone made "Wamsutta" a household word in almost every quarter of the globe. The mills consume weekly, when in full operation, four hundred fifty bales of cotton, making an annual consumption of over twenty thousand bales, out of which is manufactured twenty-four million yards of cloth,—thousands upon thousands of miles!

Great care is exercised in the selection of cotton from which this cloth is made, especially with regard to the staple. Every bale undergoes a rigid inspection. Much of the cotton used by the Wamsutta mills is what is known in the market as "benders," so named because it is grown in the bends of the Mississippi river where the rich soil produces a particularly strong staple. The system of tests and inspections is very complete and thorough, making it impossible for a piece of cloth from these mills to get into the market unless it is worthy to bear the name "Wamsutta." One-half of the cloth is sold directly to the trade in the "gray" or "brown," as it is termed. The remainder goes directly to the bleachery of W. F. & F. C. Sayles, of Pawtucket, R. I., the largest establishment of the kind in the United States, where all Wamsutta goods are bleached. At the bleachery another inspection of the cloth is made, furnishing one more safeguard to protect the good name of Wamsutta.

Of the operatives who make this cloth, as has already been said, there are twenty-six hundred. They are principally English, Scotch, Irish, and French Canadians, with a slight sprinkling of Americans and a few of other nationalities. The corporation provides for them well built, comfortable tenements of six and seven rooms each — over three hundred in number—and rents them at from $6.50 to $9 a month.

At the beginning, as has already been stated, the capital of the Wamsutta mills was $160,000. It has been increased several times, as follows: In 1849, to $300,000; in 1855, to $600,000; in 1860, to $1,000,000; in 1868, to $2,000,000; in 1875, to $2,500,000; and in 1882, to $3,000,000. It now stands at the last-named figure.

Joseph Grinnell, who was the first president of the corporation,

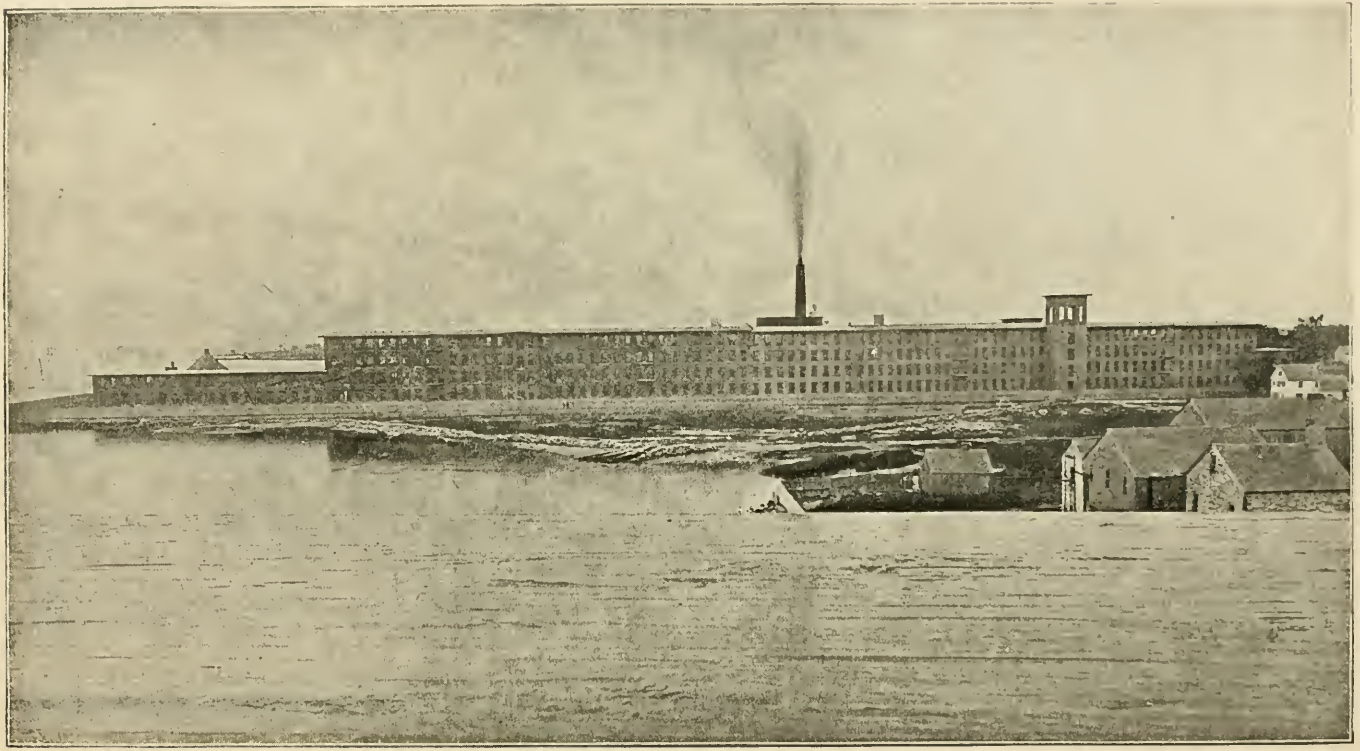
served it faithfully in that capacity, giving it daily and constant thought, and exerting all his powers of mind and body in its behalf, to the time of his death, February 7, 1885. He was succeeded by Andrew G. Pierce, who had been treasurer since the resignation of Edward L. Baker, on the 25th of August, 1855. Mr. Pierce now is both president and treasurer. It is a suggestive fact, as showing the rapid changes in human affairs, that of all who were in any way connected with the management of the mills when first started, only two—Thomas Bennett, Jr., and Mr. Pierce—are now living.

The present board of directors of the Wamsutta mills is composed of the following named gentlemen: William W. Crapo, William J. Rotch, Edward D. Mandell, Horatio Hathaway, Francis Hathaway, Francis B. Greene, and Andrew G. Pierce.

The selling agents of the corporation are Lewis Brothers & Co., of New York, Philadelphia, and Baltimore, and Francis A. Foster, of Boston.

The Potomska mills are two in number, located on South Water street, and manufacture fine lawns, sateens, print cloths, cretonnes, jeans, etc. Potomska mill No. 1 was erected in 1871 and went into operation with a capital of $600,000. This mill is four hundred twenty-seven by ninety-two feet in area and four stories high, with a weaving shed one hundred eight by ninety-seven feet, one story high. It is provided with forty-eight thousand spindles and one thousand six looms.

Potomska mill No. 2 was built in 1877, when the capital stock was increased to $1,200,000. The main building is three hundred forty-eight by ninety-two feet in area, four stories high, with an ell one hundred eighty-four by ninety-two feet, two stories high, a weaving shed one hundred eighty-four by ninety-two feet, one story high, and a picker house seventy-one by forty-seven feet, two stories high, all of brick. This mill has fifty-eight thousand three hundred twenty-eight spindles and one thousand four hundred twenty-eight looms. The total number of spindles in both mills is therefore one hundred six thousand three hundred twenty-eight and the total number of looms two thousand four hundred twenty-four. Both mills are driven by Corliss double twenty-eight inch cylinder, five-foot stroke engines, of eight hundred horse power each. The two mills employ about eleven hundred operatives. The company owns twenty-six four-tenement houses, which are rented to the help.



POTOMSKA MILLS.

The first president was James Robinson, who was succeeded by Edward Kilburn, who was in turn succeeded by Andrew G. Pierce. Hiram Kilburn acted as superintendent and agent until January, 1884, when Manly U. Adams succeeded him in the latter capacity. The present officers are :

President — Andrew G. Pierce.
Treasurer and agent — Manly U. Adams.
Directors — Horatio Hathaway, William J. Rotch, William W. Crapo, Andrew G. Pierce, Edward Kilburn, William Watkins, and Francis Hathaway.

The Grinnell Manufacturing Corporation was organized March 14, 1882, with a capital of $800,000 and the following officers :

President — Edward Kilburn.
Treasurer — Otis N. Pierce.
Directors — Edward Kilburn, New Bedford, Stephen A. Jenks, Pawtucket, William F. Draper, Hopedale, Thomas M. Stetson, Joseph A. Beauvais, Andrew G. Pierce, Thomas B. Wilcox, John W. Macomber, Charles W. Plummer, and Otis N. Pierce, New Bedford.

There has been no change in officers, but upon the resignation of William J. Kent, to accept the agency of the Wamsutta Mills, James Brenand was chosen superintendent. Over one hundred different styles of plain and fancy weaves are manufactured here. The mill has no standard, but manufactures entirely on contract. The mill started January 29, 1883, and is eight hundred eighty feet long, ninety-eight feet wide, and three stories high. It is equipped with sixty-eight thousand spindles and eighteen hundred looms, and employs over eight hundred hands. The company owns twenty-seven two tenement houses.

The Acushnet mills corporation was organized in November, 1882, with a capital of $750,000, and early in the following year a four story factory was erected east of Water street and south of Potomska mills. Silesias, sateens, and goods for the printers are made here. In 1887 a second mill was constructed and the capital stock was increased to $1,000,000. In the first mill erected there are sixty-eight thousand spindles, and in the second mill thirty-two thousand spindles, making a total of one hundred thousand spindles. The total number of operatives is about one thousand. The corporation owns twenty-three tenement houses, which are rented to the help. The officers are as follows :

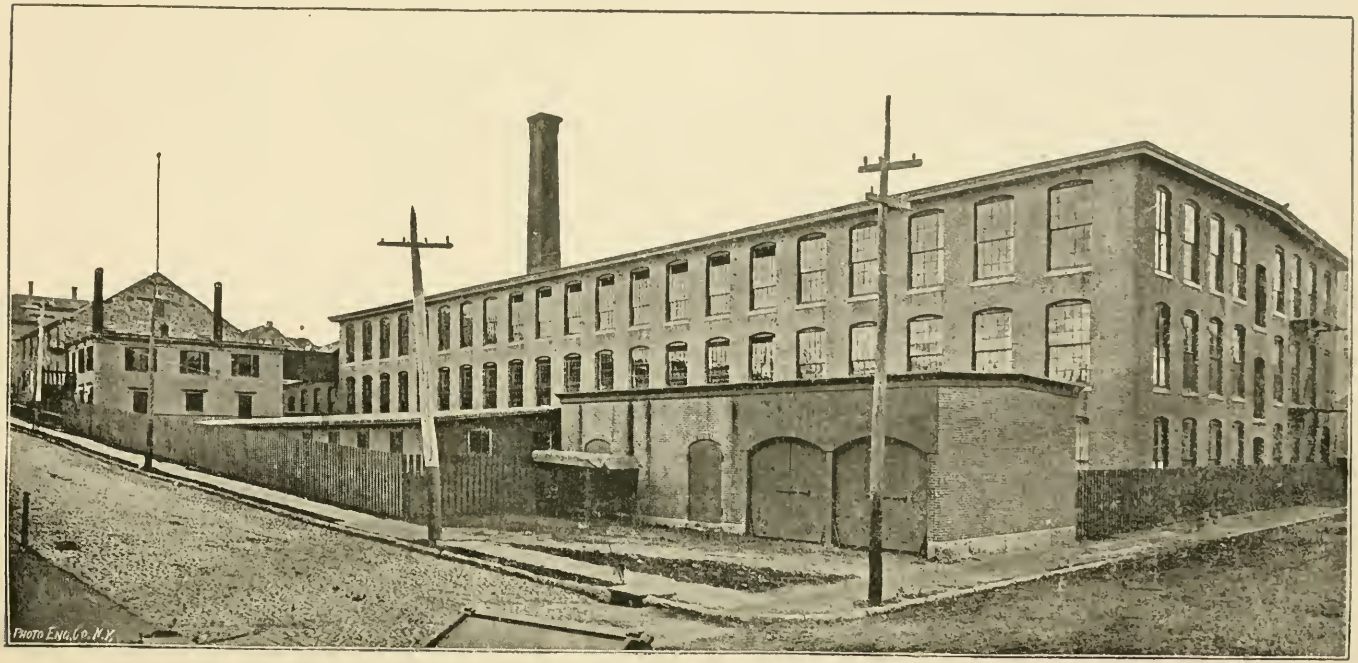
President—Horatio Hathaway.
Treasurer—Joseph F. Knowles.
Directors—Horatio Hathaway, Jonathan Bourne, William W. Crapo, Thomas H. Knowles, Francis Hathaway, William A. Robinson, Loum Snow, Jr., and Gilbert Allen, of this city, and Thomas E. Brayton, of Fall River.

About five years ago William D. Howland, who was at that time employed in the office of the Wamsutta mills, became interested in the manufacture of cotton yarns, and severing his connection with that corporation, travelled for several months, making a careful study of that specialty. On his return to this city he succeeded in interesting a number of gentlemen, and in March, 1883, the New Bedford Manufacturing Company was organized, with a capital stock of $125,000 and with the following officers:

President—Charles W. Clifford.
Treasurer—William D. Howland.
Directors—Oliver P. Brightman, Charles W. Clifford, Edmund Grinnell, Charles W. Plummer, Edward T. Pierce, William D. Howland, and David Wood.

The original proposition was to fit the old flour mill in the north part of the city as a factory, but an offer made for the property was declined, and a piece of land on the south side of Hillman street, between North Second and Water streets, was purchased and the foundation of a mill was commenced in the following May. This mill is two hundred twenty-six by fifty-two feet in area and four stories high. The mill started with eleven thousand spindles and the first yarn was shipped in January, 1884. Since that time additions have been made, so that the mill now has twelve thousand mule and eight thousand frame spindles, and two thousand nine hundred eighty twister spindles. John M. Conway & Co., the oldest established yarn house in New York City, were the agents of the corporation and took the entire product.

From the outset every effort was made to manufacture the best yarn in the market and improved machinery was constantly added in order to produce an article which would give satisfaction to the trade. Byron F. Card, who had acquired a large knowledge of yarns, was engaged as superintendent, and to his knowledge of the details of the manufacture the reputation of the company's yarns in the market is due, in a measure. Soon after the industry was fairly under way,



NEW BEDFORD MANUFACTURING COMPANY'S MILLS.

John H. Hines, another experienced man, was employed to take charge of the spinning, spooling, reeling, twisting, and warping departments.

The sales of the first year aggregated over $90,000 in value, the earnings being about 10 per cent. of this sum. This showing was very gratifying to the stockholders and encouraged them to persevere in the enterprise. No dividend was declared, but the facilities were improved and the twisting equipments increased.

At the end of two years the capital was increased to $150,000, by issuing $25,000 in certificates, representing the earnings of the corporation during this period. For the year following the earnings continued satisfactory, and dividends amounting to eight per cent. were paid.

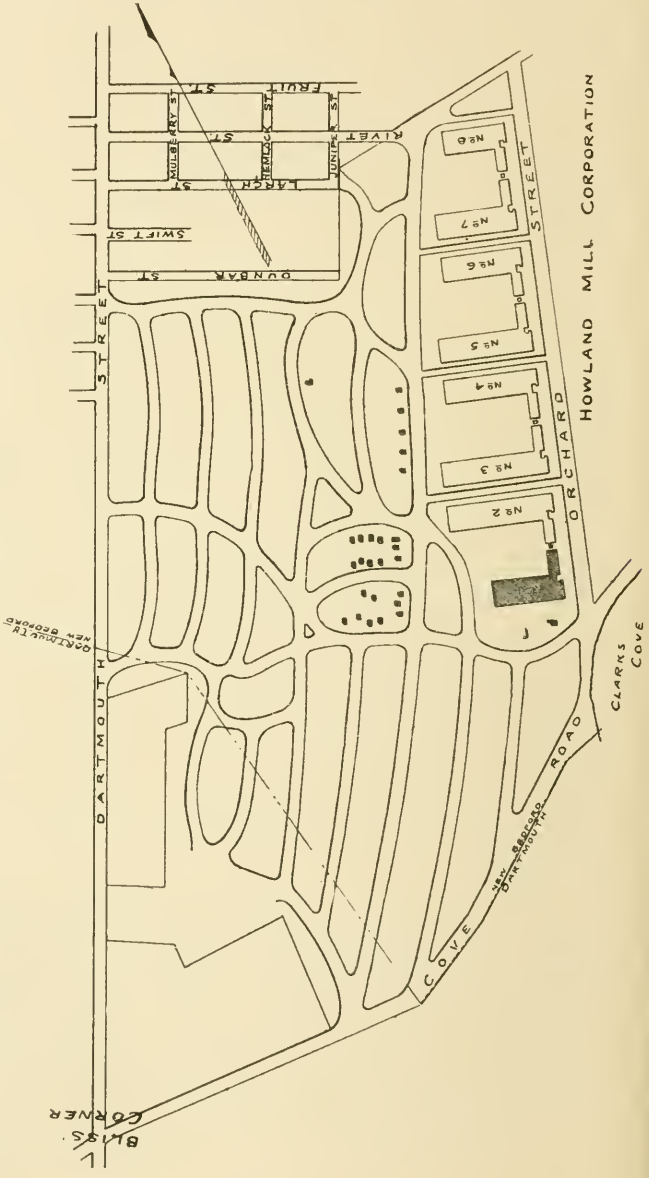
During the next year plans were made for doubling the capacity of the mill. Real estate immediately south of the original purchase was secured, and the corporation thus acquired the land within the square bounded by Hillman, North Second, North, and Water streets. In the spring of 1886, the building of a second mill commenced, with a capacity thirty per cent. larger than that of No. 1 mill. The dimensions of this second factory are two hundred eighteen by one hundred feet, and it is three stories high. It started in the autumn, with ten thousand frame spindles and five thousand twister spindles, and the capital was increased to $500,000, the present figure. The machinery has since been increased to seventeen thousand fifty-six frame spindles and seven thousand twister spindles.

Even then the corporation was forced to buy yarn to meet the demands of its customers. The capacity of both mills has since been increased for the manufacture of finer grades of yarns. To do this it has been necessary to add to the other processes a combing department. The entire number of hands employed at present is three hundred.

After the mills were fairly organized, Charles W. Clifford resigned as president and Edmund Grinnell served in that capacity for about a year, when he also resigned and Morgan Rotch was elected and to-day holds that office. The other changes in the officers of the original corporation have been the election of Morgan Rotch as a director, in place of David Wood, and of George F. Kingman as a director, in place of Mr. Grinnell.

The knowledge and experience gained in establishing and carry-

ing on the business of the New Bedford Manufacturing Company, and the demand for finer grades of yarn, suggested a wider field. The idea of additional mills had been constantly discussed by the directors of the old company and it began to appear that the business was capable of much greater development than was at first thought possible. These and other considerations led Messrs. Howland, Rotch, Plummer, and Clifford, with some others not identified with the New Bedford Manufacturing Company, to purchase a large tract of land as the first step toward the establishment of the most extensive and best equipped cotton yarn manufacturing enterprise in the country.



Negotiations for the purchase of a large tract of land in the southwest part of the city were commenced, but inasmuch as the owners were widely scattered over the globe, they were in progress nearly a year and a half before the matter was first broached to the public. At length the title to about one hundred

THE HOWLAND MILL.

fifty acres of land, including the old Crapo and Ashley farms and a part of the real estate of the Cornelius Howland estate, was secured. This land is favorably situated for manufacturing and for the houses of the help. A part of the property is finely wooded, extending from the northwest corner of Clark's cove and skirting the salt marsh to County street.

The idea of the purchase of so large a tract of land was that the company might profit from the certain advance in the value of real estate in the vicinity of the mill. The territory has been laid out in accordance with modern ideas. It will be intersected by streets fifty and sixty feet wide, and breathing places, which may one day be fitted as parks, are provided for in the plans.

A HOWLAND MILL COTTAGE.

When the land was finally secured, the plans for the first mill having been perfected, the contracts for building and machinery were at once issued and the company organized with a capital of $350.000 and the following officers:

President — William J. Rotch.
Treasurer — William D. Howland.
Clerk — Charles W. Plummer.
Directors — William J. Rotch, Horatio Hathaway, Thomas B. Tripp, Charles W. Clifford, Morgan Rotch, William J. Rotch, and Charles W. Plummer.

The corporation is named for William D. Howland, who so successfully managed the New Bedford Manufacturing Company, and its title is the Howland Manufacturing Company.

The mill is two hundred seventeen by one hundred feet in area and four stories in height, with a two-story picker house, sixty-two by one hundred feet, and an engine and boiler house ninety-nine by forty feet. Work was commenced May 1, 1888, and the main building was completed August 1, a period of seven weeks only having been required for the brickwork. The mill started with twelve thousand nine hundred fifty-two mule spindles, twelve thousand two hundred eighty-eight frame spindles, and six thousand one hundred forty-four twister spindles. About one hundred fifty hands are employed.

The company is building forty cottages for its operatives, and the dwellings are models. They are designed for single families and are of attractive and varied architecture. They are intended to provide comfortable, pretty, substantial, and convenient homes, adapted to the manner of life of the best class of cotton mill operatives.

The City Manufacturing Company, which commenced in December, 1888, the manufacture of fine medium cotton yarns in chains, skeins, and warps, and on spools and beams, was incorporated April 23, 1888, with a capital stock of $250,000 and the following officers:

President—Otis N. Pierce.
Clerk and treasurer—Benjamin Wilcox.
Directors—Otis N. Pierce, Thomas B. Wilcox, Cyrenius W. Haskins, Thomas H. Knowles, Edward Kilburn, J. P. Knowles, Jr., and Rufus A. Soule, of New Bedford, S. A. Jenks, of Pawtucket, William H. Parker, of Lowell, and Charles Tucker, of Dartmouth.

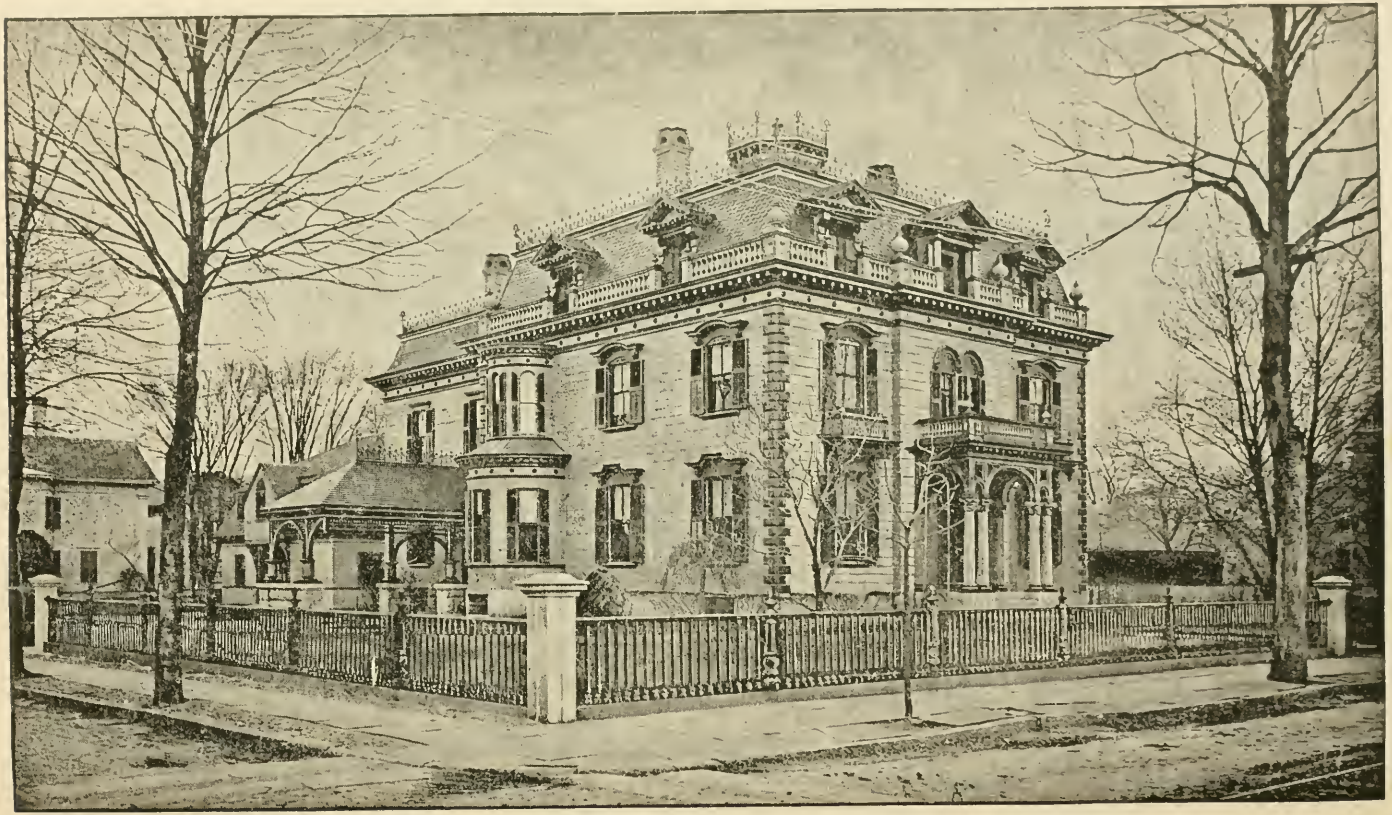
The mill is located at the foot of Grinnell street and is of brick, one hundred twelve by two hundred six feet in area and three stories high. It is provided with twenty thousand four hundred eighty spindles and seven thousand twister spindles, and will employ, when in full operation, one hundred fifty hands. The experience of the management assures a successful enterprise.

The cotton manufacturing enterprises of this city, as they now exist, may be grouped in a tabular statement as follows:

	Capital.	No. of Mills.	Spindles.	Employes.
Wamsutta,	$3,000,000	6	203,000	2600
Potomska,	1,200,000	2	106,328	1100
Acushnet,	1,000,000	2	100,000	1000
Grinnell,	800,000	1	68,000	800
New Bedford Manufacturing Company,	500,000	2	37,056	300
City Manufacturing Company,	250,000	1	20,480	150
Howland,	350,000	1	25,240	150
	$7,100,000	15	560,104	6100

On the 22d of December, 1888, after the foregoing pages had been completed, the Hathaway Manufacturing Company was organized for the manufacture of cotton cloths, with a capital of $400,000 and the following officers:

President—Horatio Hathaway.
Clerk and treasurer—Joseph F. Knowles.
Directors—Horatio Hathaway, Jonathan Bourne, Sidney W. Knowles, Francis Hathaway, William W. Crapo, of New Bedford, Thomas E. Brayton, of Fall River, and Joseph F. Knowles, of New Bedford.

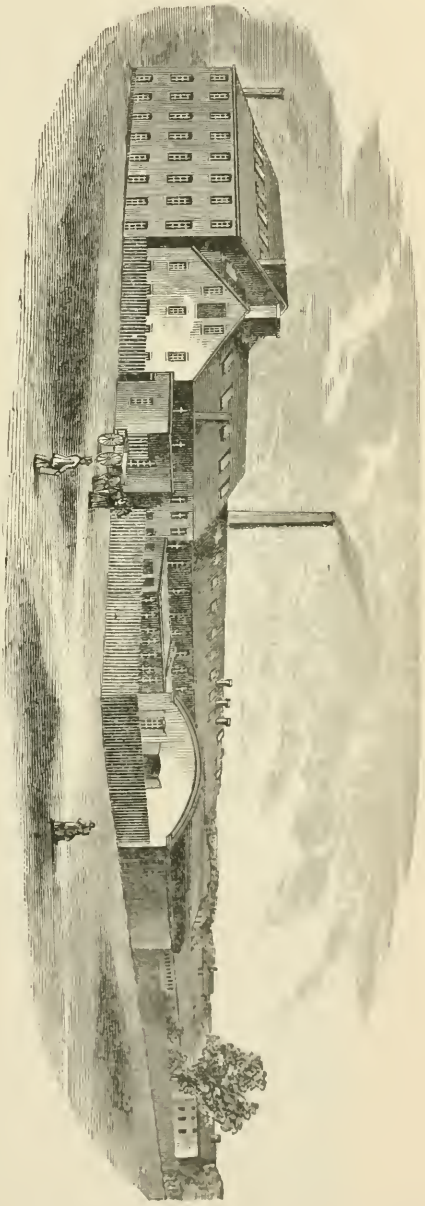


RESIDENCE OF MRS. EDWARD HASKELL.

A mill of thirty thousand spindles, to employ about four hundred fifty hands, will be erected east of Water street and south of the Acushnet mills.

Two other important manufacturing enterprises, somewhat akin to the cotton industry, may properly be mentioned in this connection.

The New Bedford Cordage Company was established in 1842 by Joseph Ricketson, William J. Rotch, and Benjamin S. Rotch, and in January, four years later, it was incorporated by a special charter from the Commonwealth, with a capital of $60,000. This amount was increased in 1849 to $75,000. The officers at the time were Joseph Ricketson, president, William J. Rotch, clerk and treasurer, and Joseph Ricketson, William J. Rotch, Benjamin S. Rotch, and Leander A. Plummer, directors. In March, 1857, William J. Rotch was chosen president and Leander A. Plummer treasurer and clerk. The former continues in that capacity, but on the death of Mr. Plummer, in September, 1884, Isaac W. Benjamin became treasurer. John W. Macomber is general manager of the enterprise.



NEW BEDFORD CORDAGE FACTORY.

The industry has been very profitable and the product is many times larger than when the company was organized. It makes a specialty of the manufacture of patent cordage employed in boring artesian wells. No superior arti-

cle is made in the world, and the cordage rigging used on the Puritan and other fast racing yachts is made here. The buildings, nine in number, cover an area of four acres, located within the square bounded by Court, Park, Ash, and Kempton streets, and about two hundred fifty hands are employed. The machinery is operated by a superior steam engine of five hundred horse power and the company has adopted all the latest improvements which give promise of perfecting the product.

The Oneko mill is situated at the head of Purchase street and ladies' all wool dress goods, broadcloths, tricots, cheviots, and fancies are manufactured here.

The corporation was organized in 1882, with a capital of $210,000 and the mill was started the following year. The main building is one story high, with a monitor roof, and four hundred by one hundred fifty feet in area, while the picker and dye house is two hundred thirty by fifty-two feet in area.

The mill is provided with five thousand spindles, sixty-three broad looms ninety-five and one hundred ten inches in width, and twelve sets of cards. The machinery is operated by a two hundred fifty-two horse power Harris-Corliss engine, with three six-foot boilers, made by Cunningham, of Boston.

Between seven hundred thousand and eight hundred thousand pounds of wool are worked annually, and the cloth is made here and colored in the wool and piece. The annual product is about eight hundred thousand yards of cloth, and one hundred sixty-five hands are employed.

The officers of the corporation are as follows:

President — Loum Snow, Jr.
Treasurer — Robert Snow.
Directors — Edward D. Mandell, Charles W. Plummer, Frederick S. Allen, Charles W. Clifford, George S. Homer, Thomas H. Knowles, and Loum Snow, Jr.

RESIDENCE OF JAMES DELANO.

THE MANUFACTURE OF OIL.

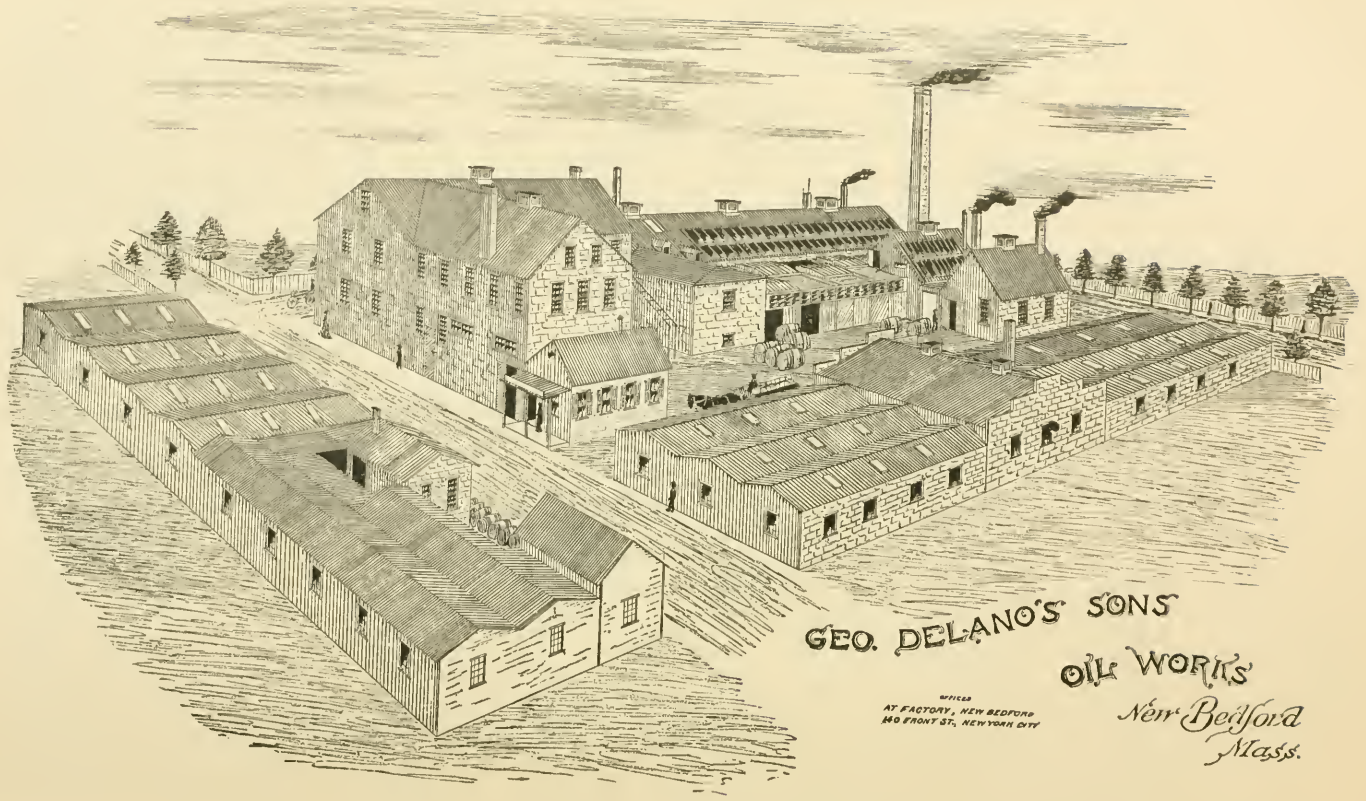
To mention New Bedford without devoting some space to her oil manufactories would be to neglect the genius of the lamp, and too much credit cannot be given this industry for the present position of this city.

William A. Wall's interesting picture of "The Origin of the Whale-fishery," which now hangs in the parlors of the home of the late Mrs. Charles W. Morgan, contains an illustration of the first oil factory in New Bedford. It consisted merely of a trypot under an old shed by the shore. Near by stands a man pouring oil from a long handled dipper into a wooden-hooped barrel. Another is handling over the blubber, while a third is coopering a barrel. The latter is engaged in conversation with an Indian who is seated upon a broken mast. On the shore, keeled over on her side, is one of the small sloops employed in whaling at that time, and the river lies outstretched in the background.

Seated upon the frame of a grindstone, and giving directions to a colored servant who holds his horse, is seen in his broad brimmed hat and Quaker coat, the founder of New Bedford and the father of her whale-fishery, Joseph Russell.

The blubber taken by the little vessels, on their return from the voyages, which were of but a few weeks' duration, was brought as near the shore in the vessels as possible, when the butts containing the blubber were drawn to Mr. Russell's tryhouse by ox teams. This was as early as 1765.

Previous to the Revolution a candlehouse was built by Mr. Russell, and Capt. Chafee, who had been engaged in manufacturing spermaceti in Lisbon, was employed by Mr. Russell at a salary of $500 per annum. This building stood near the corner of Centre and Front streets and was burned by the British. Fifty years after, or thereabouts, a number of factories were in operation. Among the first of these factories was that of Samuel Rodman. The building occupied by him is now standing on Water street, at the corner of Rodman street. It was built of stone and covered with plaster, and is at present unoccupied. Then there was the factory of Humphrey Hathaway, on the north side of School street, west of Fourth, and

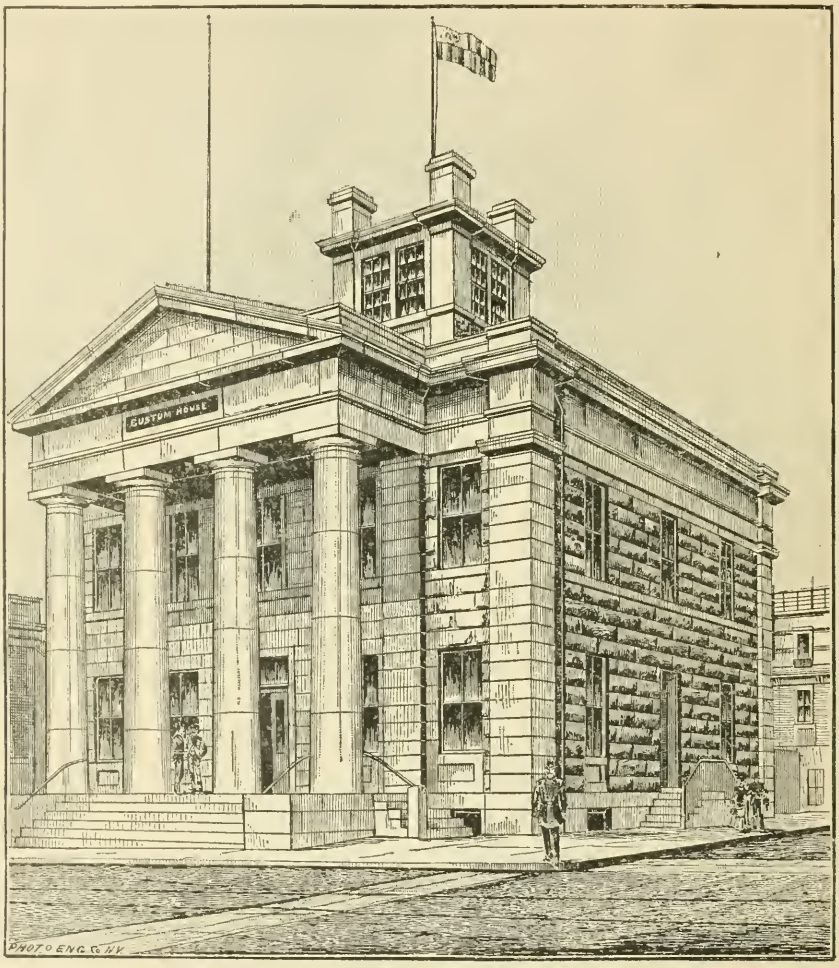

GEO. DELANO'S SONS
OIL WORKS
New Bedford
Mass.
OFFICES
AT FACTORY, NEW BEDFORD
140 FRONT ST., NEW YORK CITY

west of this stood the factory of Isaac Howland, Jr. From the best information obtainable, the old "marsh candle-works" were built by William Rotch & Sons, but this may not be a fact. These works occupied the site on which the gas works now stand, and the business here was subsequently conducted by Francis Rotch and Charles W. Morgan. At each of these factories sperm oil and candles were manufactured and whale oil was refined.

Then John James Howland built candle works at the corner of Second and Middle streets, the building now occupied as a soap factory, and soon after James Henry Howland, a son of the abovenamed gentleman, and George Hussey established the factory at the Smoking Rocks. William W. Swain built a factory on the north side of Middle street and the vat house of this building is now occupied as a storehouse by Charles S. Paisler & Co. Andrew Robeson built a factory on Ray street which subsequently came into the possession of Edward Mott Robinson. George Howland had a factory on Howland's wharf and William T. Russell engaged in the manufacture at 86 Third street. Charles W. Morgan carried on oil works at 82 South Water street, and one of the older factories was at 96 First street, having been established by David Coffin. There was also a factory on Fish Island.

Samuel Leonard was at one time the largest oil refiner in the country. He established the factory on the north side of Leonard street, east of Water, and he bought and sold oil in very large quantities. Some time in the 50's Samuel Leonard & Son erected the stone building on Acushnet avenue, now the carriage factory of George L. Brownell, occupying all that part of the present structure which is of stone. Nehemiah Leonard also operated a factory near that of Samuel, very successfully. At a later date Sanford & Howland, the latter, Sydney Howland, being a grandson of John Avery Parker, took the oil refinery of William W. Swain. While he owned it, it was burned, making a great fire for those days. It was rebuilt and was subsequently taken by Milliken Bros., of Boston, and then passed into the hands of Eben Milliken, of this city. George T. Baker established the factory on South street, which subsequently passed into the hands of Oliver and George O. Crocker and then to Charles H. Leonard. The business here is now carried on by George Delano's sons, who succeeded their father. Mr. Baker afterwards built the factory at the corner of Water and Madison streets, now occu-

pied by William A. Robinson & Co. Cornelius Grinnell built a factory on First street, at the northwest corner of South, and Joseph Ricketson built a factory at the northwest corner of Grinnell and First streets. The two latter were subsequently burned. The Hastings



CUSTOM HOUSE AND POST OFFICE.

built the factory at the foot of Grinnell street, which is still in operation, and S. Thomas & Co. established the factory on Prospect street, now occupied by Homer Bros., about the year 1855.

The above history is perhaps not absolutely accurate and no attempt has been made to give a list of the firms which succeeded

the founders of the various works. Such a list would include members of nearly all of our oldest representative families.

The decline of the oil factories here dates from the advent of petroleum, but the discovery was not felt to any extent until after the war. When the war broke out the prices of sperm oil and bone advanced very materially and our merchants made large profits, proportionate to the risks, and as the owners of ships were subsequently reimbursed for the destruction of their vessels, our oil merchants and manufacturers were greatly enriched.

About the year 1857 Abraham H. Howland purchased the Joseph Ricketson works and commenced experimenting in the distillation of oil from coal. A company was formed consisting of Abraham H. Howland, William C. Taber, Joseph C. Delano, William P. Howland, John Hicks, Weston Howland, Henry T. Wood, and B. Franklin Howland, which established and successfully operated a coal oil factory.

Weston Howland, the present collector of the port, claims, and so far as the writer knows the claim is not disputed, that he was the first person to successfully refine petroleum oil. There is no doubt but Mr. Howland was the first to place refined petroleum on the market and the story of this discovery, which effected a revolution in the oil business of the world, is very interesting.

In 1860 Mr. Howland was the secretary of the New Bedford Coal Oil Company. While in New York on business, he was told at the office of Josiah Macy & Sons, the New York agents for his company, that Schieffelin Bros., the well-known chemists, wished to see him. At the office of the latter he met their leading chemist, who introduced the subject of petroleum.

Petroleum had not yet been refined. It had been known for years and formerly had been collected by the Indians, who had taken it from the Alleghany river and Oil creek by spreading blankets upon the water, and wringing them when saturated. It was called Seneca oil and was used as a medicine.

At that time there were a few wells in Pennsylvania and Schieffelin Bros. had about two thousand barrels of the oil on hand. Mr. Howland consented to make an attempt at refining the oil and a barrel was shipped to him. Then Mr. Howland commenced his experiments. He procured a large kettle from his kitchen and fashioned a crude condenser, and after a few trials his attempts at distillation

were successful. But the oil procured was thick and muddy, with a vile odor, and had yet to be refined. Mr. Howland accordingly filled a milkpan with the oil and experimented with alkalies and water, but the result was a foggy mixture of oil and water. Mr. Howland was discouraged and, placing the pan in his barn, left it.

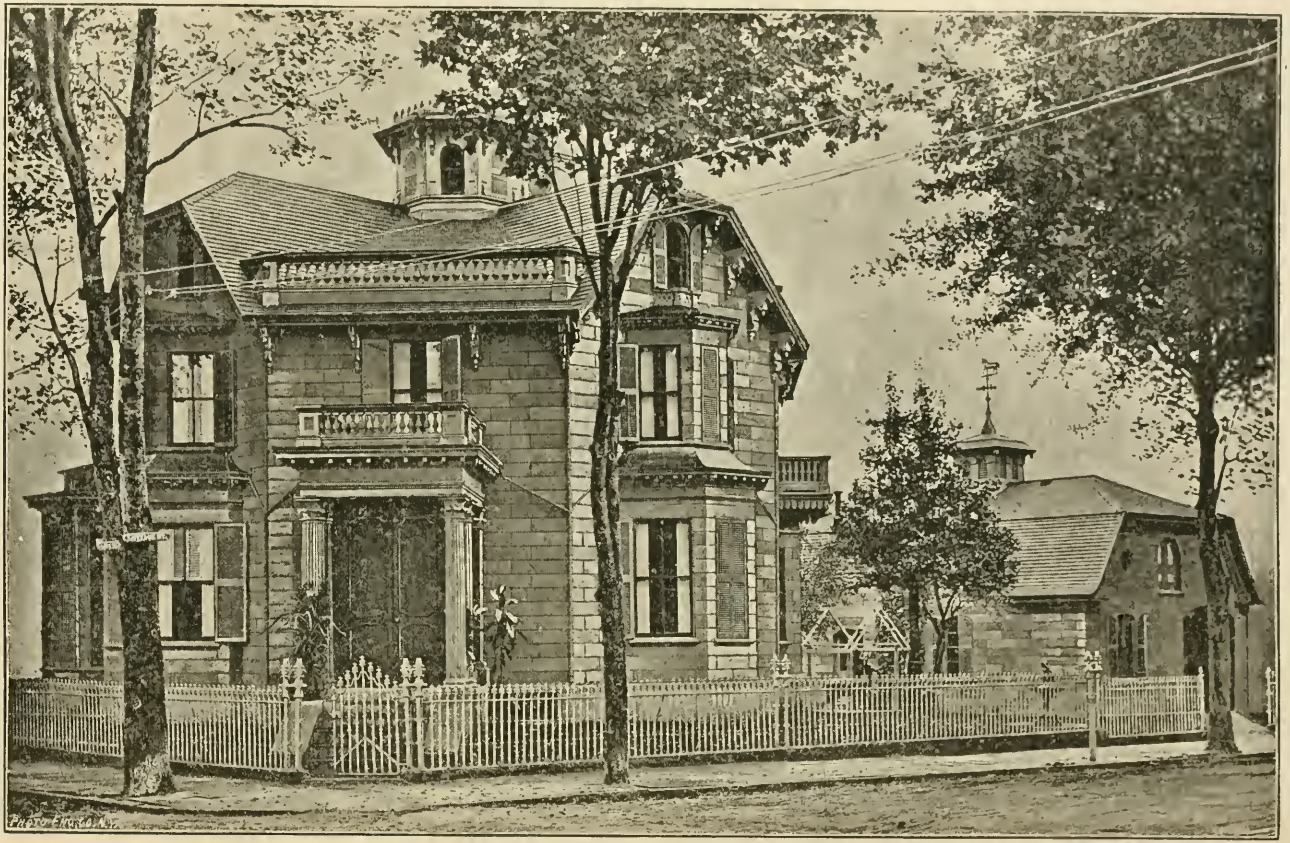
When he returned he looked at his oil and found the problem solved. Mr. Howland had left the door of his barn ajar and as the sun wore around its beams had reached the oil, and the process was completed.

That evening Mr. Howland filled three clean lamps, one with coal oil manufactured at the works of the New Bedford Oil Company, another with Downer's coal oil, and a third with petroleum. Then he lighted the lamps and called in his brother William to judge which was the best. The latter at once selected the petroleum lamp as giving the largest and brightest flame, with the least smoke.

Mr. Howland was convinced that petroleum was a success and that coal oil could not compete with it. He at once purchased the oil works at Fish Island, procured stills and commenced the manufacture of petroleum for the market. He purchased fifteen hundred barrels of oil of Schieffelin Bros. at twenty-five cents a gallon and sold the refined oil for seventy-five cents as rapidly as it could be manufactured.

One day Mr. Howland learned that the Downers had purchased all the oil in the market and had commenced the manufacture of the oil. Mr. Howland sent an agent to the oil wells in November, 1860, who contracted for the entire product. In the January following the works were destroyed by an explosion and two men were killed. The machinery was covered with sails that it might not be copied and the following day rebuilding commenced. A great deal of oil was sent to California. It was purchased at the refinery by William P. Howland, shipped across the isthmus and over the mountains on jackasses and sold readily at $2 a gallon. The oil was shipped in tin cans, and the making of them became quite an important industry here at one time. Most of the cans were made by Stephen A. Tripp and Wood & Brightman.

Subsequently the Seneca Oil Works were built at Willis Point and two small refineries were built in Fairhaven. Mr. Howland was the last to abandon the manufacture in this vicinity. He retired from the oil business eight or ten years ago.



RESIDENCE OF JOHN HASTINGS.

Nearly all of the sperm oil taken is refined here, and in round numbers fifteen thousand barrels of sperm, twelve thousand barrels of whale, and eight thousand barrels of fish oil are refined in New Bedford annually.

The factory of George Delano's Sons, on South street, is the largest grease oil refinery in the world. The buildings cover nearly two acres of land and in the busy season forty-five men are employed. The individual members of the firm are Stephen C. L. and James Delano, who succeeded the firm at the head of which was their father, in 1884. George Delano entered the employ of Charles H. Leonard in 1855, and took the business January 1, 1869. The New York office of the firm is at 140 Front street, in a building which the various firms that have operated the works have occupied since 1850.

The company manufactures sperm, whale, sea elephant, fish, and cotton seed oils, patent and paraffine wax candles, spermaceti, whale and fish oil pressings, and sperm and whale oil soap. All crude oils are worked out to definite results at the factory and the product is shipped to every part of the world.

As this is a representative factory, it will not be out of place to tell briefly of the processes to which the oils are subjected.

The crude oils as they are landed in casks from our whaleships are a thick, dirty brown in color. The quality is determined by the appearance and by tasting, and the buyers become very expert in their judgment.

The products of sperm oil are the winter sperm, which is the first running from the crude oil after it has granulated, the spring sperm, the summer sperm, the taut pressed, which leaves the unrefined sperm, and finally spermaceti, with a melt test of one hundred fifteen degrees Fahrenheit. The sperm oil is not sold in its natural color, however, but is half bleached by a process which leaves sperm oil soap as a product.

The product of the whale and other heavy oils, such as sea elephant, fish, and cotton seed, are the winter, spring, and summer pressings, which leave stearine. This latter product has the consistency of tallow. Soaps are made from all of these oils in the bleaching process.

The sperm oil is largely used for oiling machinery, although it is usually compounded with cheaper oils before it can be used for this

purpose. It was formerly used for burning in lighthouses, and up to 1860 the works held a contract to supply the entire lighthouse system of the United States. The whale oil is used for illuminating purposes. A vast quantity is consumed in engine headlights, being combined with the hydro-carbon oils. Considerable fish oil is used for burning in mines. Large quantities of the soap are shipped to California, Florida, and other fruit growing sections, where it is employed in washing orange and other trees to protect them from the ravages of insects, and acts as a fertilizer.

The stearine is used in large quantities by the mills, where it is used as sizing for yarns, and much of it is exported for smearing sheep before shearing the wool. It is also used in making the better grades of soap, as filling for leather, and in oleomargarine to some extent.

When the sperm oil is brought from the wharves to the works, it is turned into deck tanks, with a capacity of six hundred gallons each, and from here it is pumped into the bleaching tanks. There are three of these, the largest having a capacity of five thousand gallons, and two others with a capacity of thirty-one hundred gallons each. Within these tanks are coils of steam pipes and the oil is boiled with a soda lye. The sediment which precipitates to the bottom is drawn off and manufactured into soap.

The oil is then drawn off and placed in barrels. These barrels of oil are then placed in the pits and are put under ice. The "pits" are, in reality, a huge ice chest, with a capacity for holding one thousand barrels. As much as thirty tons of ice are often used in a single day, and the barrels remain here for about ten days, until the oil freezes. The product, after the pressings, is the virgin winter oil, which runs limpid at a temperature ranging as low as twenty-eight degrees below zero. In the coldest weather the oil is sometimes placed out of doors where the cold atmosphere effects the same results as if the oil were placed in the pits.

After the first pressing, the sperm is again placed in hempen bags and in the spring it is subjected to another pressing. The product is the spring oil. In the summer, when the sperm has become dryer yet, it is again subjected to hydraulic pressure, and the result is a thin oil known as the summer oil.

After the oil has been removed by repeated pressings, the sperm is boiled with an alkaline lye, washed with water and moulded into blocks, which are in appearance as white and lustrous as alabaster.

HASTINGS BUILDING.

On splitting these blocks, crystallized surfaces appear, resembling pure quartz.

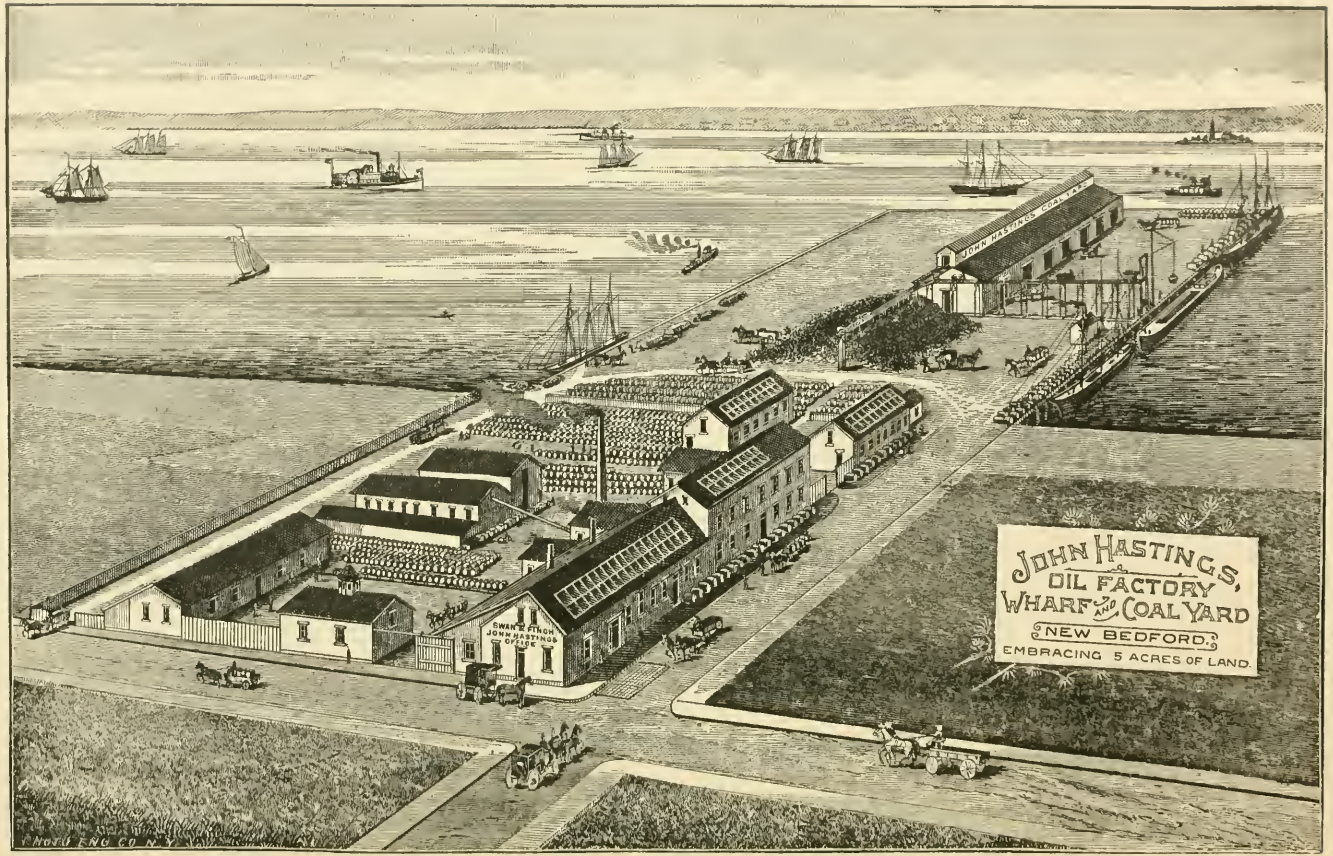
From these blocks the candles are moulded. The wicks are adjusted by hand, and the candles are the best in use. Coloring matter is introduced, in so small a quantity, however, as not to destroy their beautiful transparency. Gamboge gives them a yellow tint, carmine a red, and Prussian blue is used to produce the blue color. Very many paraffine wax candles are made at this factory, but the paraffine wax, being a hydro-carbon product, is purchased. The candles made here range in size from those so small that it requires twelve to a pound, to single candles two pounds in weight. Between five hundred thousand and six hundred thousand pounds of spermaceti and paraffine wax are made into candles every year. The candles are made in machines and are cooled by water. Most of the paraffine wax candles are made in the winter, owing to the length of time required for them to cool in the summer.

The whale, fish, and other heavy oil processes are somewhat different. After the oil comes from the pits it is run through flannel strainers. The foots which remain are then subjected to repeated pressings and require bleaching by the alkaline process before they are marketable. The stearine from whale oil is very white and handsome. That from the menhaden oil is darker.

All of the oil is finally sun bleached, and under the glass roofs there are eight tanks with a capacity of fifteen hundred gallons each, seven tanks with a capacity of twelve hundred gallons each, and three tanks with a capacity of eighteen hundred gallons each. The fish oil is refined by a patent process at these works and is rendered very white and handsome, although, of course, it is more gummy than the sperm.

A cooper shop is connected with the establishment, and the works are provided with every modern improvement in the way of pumps, presses, and other machinery.

The reputation of the works is the best. No gallon of oil ever went out of the works which was not strictly pure and the firm points with pride to the fact that its oldest customers, in sending in their orders, never trouble themselves to specify that the oil shall be "pure," knowing that no adulterated oils are ever sent out from this establishment.


JOHN HASTINGS,
OIL FACTORY
WHARF AND COAL YARD
NEW BEDFORD.
EMBRACING 5 ACRES OF LAND.

About three years ago the firm of Swan & Finch, No. 151 Maiden Lane, New York, leased the extensive oil works of Hastings & Co., at the foot of Grinnell street, having an area of five and one-half acres. This firm is the largest manufacturer of fish oil in the country and the refinery here is used for this purpose. About a dozen men are employed and Frank Corey is the local manager. The firm also has factories at Brooklyn and New York city, and has facilities here for refining whale and sperm oil.

William A. Robinson & Co. are among the largest refiners of sperm and whale oil in the country. This firm was established in Rhode Island in 1829, transferring its business to this city in 1853, when a factory was occupied on the site of the present passenger station of the Old Colony railroad. In 1863 the firm moved to the factory it now occupies, No. 50 South Water street. The main building is two stories high, with a frontage of forty feet on Water street. It is connected with smaller buildings of brick and stone, extending through to Front street, a distance of two hundred forty feet. There are large sheds for storing oil on Walnut street, south of the factory buildings. The buildings are lighted by gas and heated by steam, and employment is given to fifteen or twenty hands. The manufacture and sale of sperm and whale oils and their products is the principal business in this city, although the firm deals largely in other oils. The Providence house handles potato, wheat, and corn starch, lard, olive, paraffine, and kerosene oils.

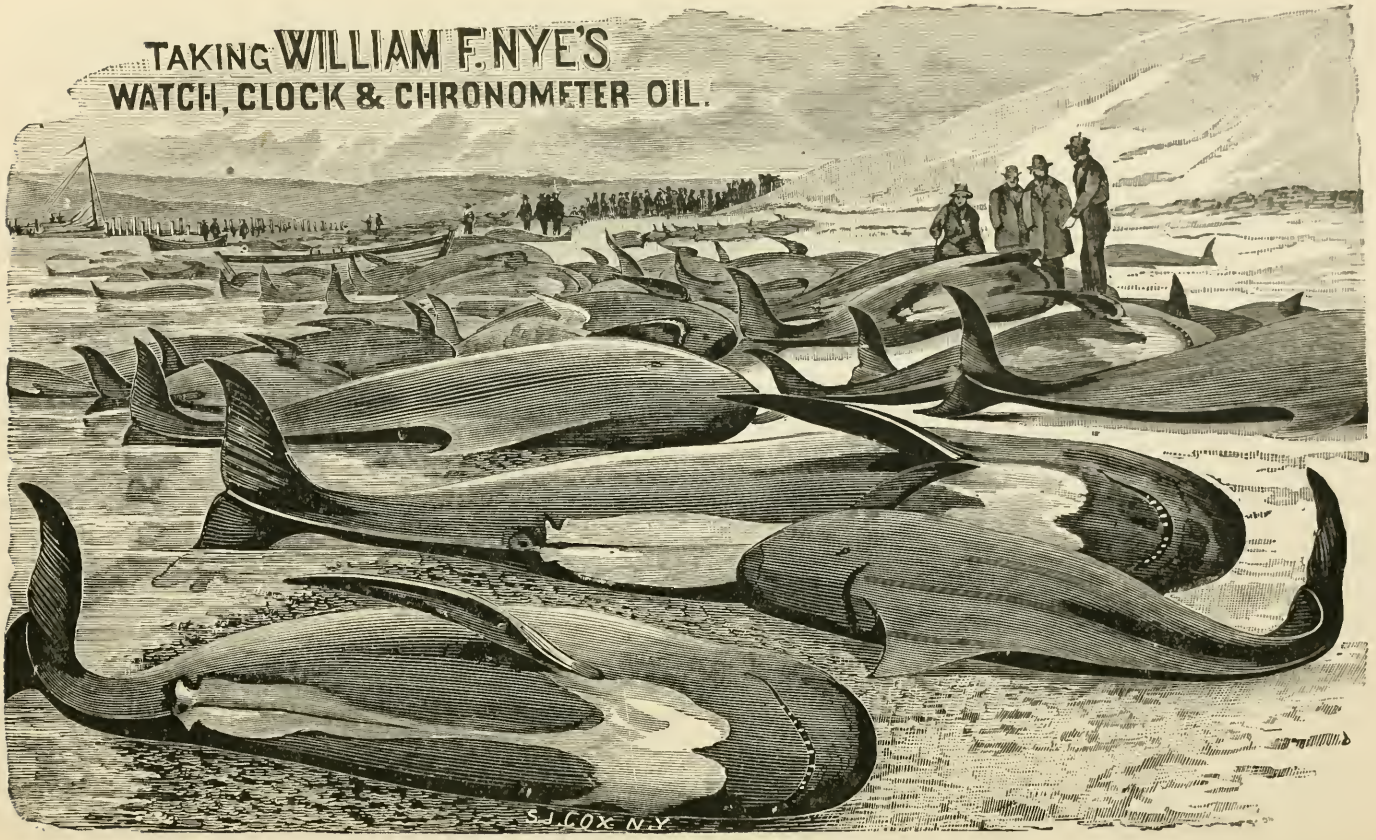
The oil and candle manufactory of George S. Homer was established about the year 1850, and in 1857 the firm of S. Thomas & Co. was formed. Ten years later Mr. Homer succeeded to the business, as surviving partner. The buildings, with sheds, occupy an area of one and one-half acres and are located on Front, South, and Prospect streets. The factory comprises two main buildings, one hundred twenty-five by forty-five and seventy-five by forty-five feet, respectively, containing pits, vats, cisterns, kettles, strainers, and hydraulic presses. There is a boiler house with a boiler of fifty horse power, a cooperage for repairing casks and barrels, with a room above for moulding candles and preparing the spermaceti of commerce. Seventeen hands are employed and the reputation of the factory ranks with the best. In the year 1888 there were manufactured on the premises five thousand barrels of crude sperm oil, seven thousand barrels of crude whale oil, and a quantity of blackfish, menhaden, and other oils.

William F. Nye is the largest manufacturer of sewing machine and watch and clock oils in the world. His factories are on Fish island and are surrounded on three sides by wharves. Mr. Nye commenced the manufacture of lubricating oils in 1844, at Fairhaven, on a small scale, and afterwards carried on the business at the foot of Walnut street in this city. In 1877 he purchased the large stone factory on Fish Island and has since erected several large buildings. The old factory is of stone, three stories high, and about ninety by forty feet in area. Subsequently a factory of wood and stone, three stories high and fifty-five by sixty feet in area, was built, and a two story building of stone, about fifty by fifty feet in area. About one hundred fifty thousand gallons of sewing machine, watch, and clock oils are disposed of annually and in addition to the oil shipped in bulk, over two million one hundred fifty thousand bottles of various sizes are filled and sold each year.

The processes are simple, but the best of stock and the greatest care and honesty were necessary to earn the reputation which Mr. Nye holds. Wherever sewing machines, watches, or clocks are made Mr. Nye's oils are known. He supplies large quantities to the Waltham, Elgin, and other celebrated companies in this country and Switzerland, and the famous cathedral clock at Strasburg is lubricated with oil made at this factory.

Sewing machine oil is a mixture of sperm oil and bone-filtered petroleum. It is landed on Mr. Nye's wharves in barrels and is placed in wells. From here it passes into standpipes, where it is agitated and thoroughly mixed by air blasts. In this process the lighter gases pass away. There are three of these standpipes, each having a capacity of one hundred fifty barrels. After agitation the oil becomes white and is left sixty days to settle. Then a Worthington duplex steam pump forces the oil into distributing tanks in the attic. A filler, patented by Joseph K. Nye, a son of the proprietor, is used here and with it a gross of bottles can be filled in one minute. The bottling rooms are very complete. After washing, the bottles are placed in a drying room where the mercury stands at two hundred degrees Fahrenheit. In addition to the fillers, a corking machine, invented by Mr. Nye, is used.

The watch, chronometer, and clock oil is composed of porpoise jaw and blackfish head oil. Several years ago an unparalleled school of blackfish appeared on the coast of Massachusetts and twenty-two


TAKING WILLIAM F. NYE'S
WATCH, CLOCK & CHRONOMETER OIL.
S.J. COX N.Y.

hundred of these monster fish were driven into inlets and bayous, where the receding tide left them an easy prey. The entire catch was secured by Mr. Nye, ensuring a supply of oil which will last many years. The process of refining these oils for watches and clocks requires about two years.

Recently Mr. Nye has established a refinery at St. Albans, Vt., and the oil passes through the processes with the temperature thirty-five degrees below zero. By this means the oil is freed from all impurities that corrode and blacken the pivots of a watch and it is perfectly unaffected by heat or cold. It is much whiter than oil refined in these latitudes.

The oil is strained through strainers of cotton flannel and is then placed in tubes, where it stands for about eighteen months. These tubes, or tanks, are kept in a fire proof vault, and fine watch and clock oil to the value of ten thousand dollars is stored here, in forty tanks, each with a capacity of about fifty-five gallons.

Although less than half a drop of oil is used on a single watch, some watch manufacturers order this valuable lubricator by the barrel. Large quantities of the oil are also used on type writing machines.

When the writer called at Mr. Nye's factory, he had stored on one floor one hundred tons of empty bottles, constituting four or five months' supply, and twelve thousand empty boxes.

The factory is well arranged, being supplied with hoisting engines and steam elevators. There is also apparatus for refining heavy oils and Mr. Nye does something in this line, besides doing a jobbing business in all lubricating oils.

Mr. Nye has recently commenced the manufacture of an oleo-tannatine compound, which is a leather preserver and a softener and cleaner for harnesses. He also makes shoe dressings and edge blacking.

About twenty-two hands are employed at the factory.

The Ezra Kelley famous chronometer, watch, and clock oils are manufactured at Mount Pleasant. These oils are used in the watch and clock factories of the world and the sales now aggregate six hundred gross per year. About three hundred fifty gallons of crude stock are required for a year's supply. Mr. Kelley is now in the ninety-first year of his age and has manufactured his celebrated oils for the past sixty-two years. He was the first to apply fish oils for the lubrication of clock machinery. Mr. Kelley was born in Dennis, Mass.,

ABBOTT P. SMITH'S SUMMER RESIDENCE AT PALMER'S ISLAND.

in 1798 and came to this city in 1818 and engaged in the manufacture of clocks. At this time nut oils were used exclusively, here and abroad, in clocks and watches. Mr. Kelley experimented with the oil of the porpoise and finally succeeded in producing a lubricator for light bearings which was unsurpassed at that time. When the manufacture of clocks by machinery commenced, Mr. Kelley abandoned his trade and started for New York with a little case of bottles and commenced the introduction of his now celebrated oils. Their superiority was quickly recognized. His market grew until it now includes the entire civilized world, and the manufacturer has crossed the ocean ten times, taking large orders from the leading factories in England, France, Germany, and Switzerland. Wherever exhibited, these oils have received first-class awards and among them are a diploma given at the Geneva exhibition in 1880 and a diploma and medal awarded by the judges at the centennial exhibition in Philadelphia in 1876. The proposals for chronometer and clock oils issued by the government last year specified that Kelley's oil alone should be supplied. About the year 1850 Mr. Kelley commenced the manufacture of his superfine oils from the head and melon of the blackfish. Much of the latter oil used by Mr. Kelley is taken from fish captured on the coast of Africa, and this grade is superior for lighter bearings, having less body than the oils taken from the fish captured in local waters. The difference is presumed to be caused by the food which the deep sea fish consume. John Wing, a son-in-law of the manufacturer, now conducts the business for Mr. Kelley. The agents for these oils are Henry Grinnell & Co., 31 Maiden Lane, New York, and Grimshaw & Baxter, 35 Goswell road, London, Eng.

ART INDUSTRIES.

Possibly it may be a surprise to most readers of this book to learn that New Bedford is the home of manifold and varied art industries, employing many skilled artisans and producing thousands of objects of beauty.

The firm of Charles Taber & Co. was the pioneer in the industry of art manufacturing in this country. Today it is the largest industry of its kind, the annual product aggregating nearly a half million dollars in value. In the busy season about three hundred

fifty hands are employed and goods are shipped to every part of the world.

The business of the firm dates back nearly to the beginning of the century. William C. Taber, the father of the present senior member of the firm, early in life became a partner with Abraham Sherman, Jr., in the book business at the northeast corner of Union and Water streets. This partnership was dissolved about the year 1835, when Mr. Taber conducted the business alone for a time. In 1843 Charles Taber, a son, who had that year attained his majority, was admitted as a partner. Soon after, the firm opened a store at No. 6 Purchase street, and about the year 1849, the father having retired, Charles and his brother Augustus carried on the business at the corner of Union and Purchase streets. Then the firm of Charles Taber & Co. was established and there has been a firm of Charles Taber & Co. ever since. The business at this time included the sale of books, engravings, and charts, many of which were imported from abroad by the firm. Upon the withdrawal of Augustus, Charles took as partners Abraham Taber and Asa C. Peirce, and, still later, William C. Taber, Jr. In 1861 the store on the corner was given up and the firm moved to No. 47 Purchase street, in the then new Cummings building, and the next year the brothers Abraham and William C. Taber, Jr., took the two book and stationery stores, and Charles, with Asa C. Peirce, started as manufacturing photographers at No. 6 North Water street. This last firm continued until about 1871, when Charles Taber assumed and continued the sole management until 1881. Then he took as partners his brother, William C. Taber, Jr., and his sons, Charles M. and Frederic. Charles Taber died in 1887 and the firm now comprises the three latter gentlemen.

In the twenty-three years since the business of manufacturing photographs began, the modest enterprise has grown to huge proportions, not only keeping pace with the growth of photography, but adding to itself other branches of decorative art. Gradually the stationery business in the old Union street store was crowded out by the needs of the thriving trade in the works of art. The old buildings on the corner were swarming with working men and women and new hives were bought or built and quickly filled. At present the firm occupies five buildings: the three story building of brick and stone at the northwest corner of Union and Water streets; most of the two story building on Water street, next north; the three story build-

CUMMINGS BUILDING.

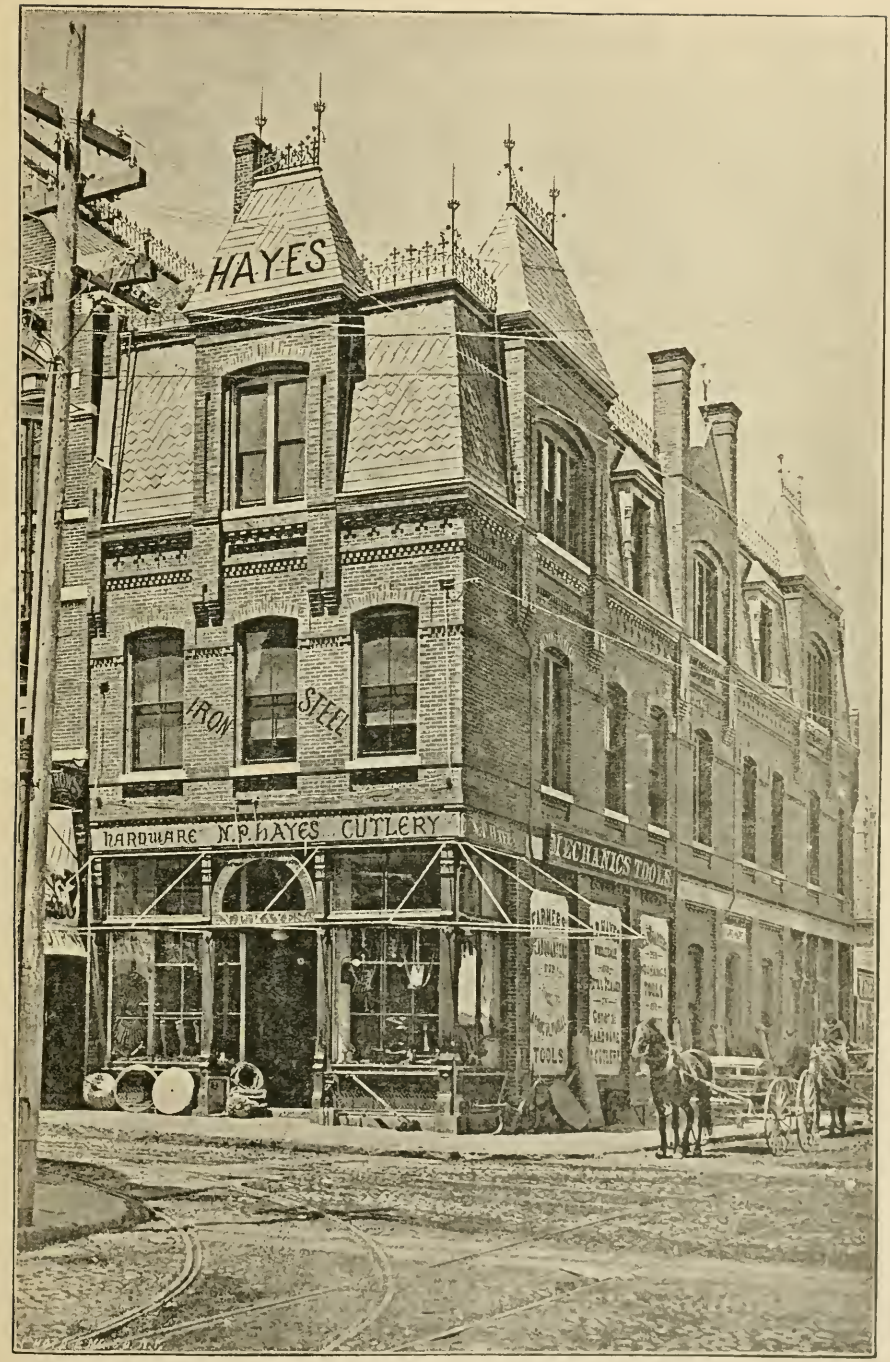
ing on the northeast corner of Union and Water streets; the large wooden building next east, which, by the way, was occupied by the present senior proprietor's great grandfather as a dwelling as far back as 1763; and the three story wooden building on the south side of Spring street, extending from Water to First streets. Roughly estimated, the workshops of the firm occupy fifty thousand square feet of area.

On the lower floor of the building on the northwest corner of Union and Water streets the office is located and here is the stock room in which the various styles of artotypes are kept. On the upper floors are studios where photographs are colored and pastels are executed. The sample and store rooms are in the building next north. In the building on the opposite corner photographs are made and mounted, artotypes are printed, frames are put together with mats, holiday goods are made up, and picture framing is done. The building at the corner of Water and Spring streets is entirely given up to the manufacture of picture frames and mouldings.

The art business of the firm commenced with the manufacture of ambrotypes, and the vast industry now carried on was probably the result of an incident which happened about the year 1860. Among the engravings on sale at the store on the corner of Union and Purchase streets was one of Elizabeth Fry, the English philanthropist. It was an imported picture and the copies were quickly sold. Charles Taber was a member of the society of Friends and he greatly admired the beautiful face of the good woman. These were the days of ambrotypes, which were photographs on glass. They were very beautiful and compare favorably in point of attractiveness with the photographs of today. Mr. Taber conceived the idea of reproducing the engraving by this process and, as an experiment, sent the picture to an ambrotype saloon. The result was successful and Mr. Taber framed it with the intention of hanging it in his own home. It was left in the store for a few days and excited much admiration. Several persons who saw the portrait desired copies, and they were furnished. Subsequently Mr. Taber successfully repeated the experiment with a Landseer, and finally the reproductions became recognized as a legitimate branch of the art business and the firm commenced the manufacture of ambrotypes. The photograph of the face of Elizabeth Fry was the first reproduction of an engraving which was ever put on the market.

This branch of art manufacture led to the importation and finally to the manufacture of passepartouts. These are frames of glass, with a pasteboard backing and paper binding. This, in turn, led to the manufacture of frames, and the next natural step to the production of ambrotypes was photographs. About six years ago the firm first commenced the manufacture of artotype engravings and etchings, and in this department their productions are recognized as the standard, dealers willingly paying much more for artotypes from this establishment than they will pay for the same reproductions from other factories. The artotypes of this firm exactly reproduce the finest engravings and etchings and it requires a close inspection from the connoisseur to detect them from the original proofs, and they are equally permanent. The superiority of the artotypes of Charles Taber & Co. lies in the fact that while other firms have sought to reduce the expense of production, this firm has stood ready to make any expenditure which would tend to improve the artistic value of the work. The ink used is imported and is the same as that used for steel engravings, while the plate paper is made expressly for this purpose. They excel in the clean lines, the tones, and general artistic effect and character. Eighteen printers are employed, nearly all of whom came from abroad. About eight hundred subjects are kept in stock. Artotypes are printed, or "pulled," as the technical phrase is, from gelatine plates prepared by the process discovered and patented by Obernetter of Munich. A description of this process cannot fail to be interesting.

In commencing, we have a sheet of thick plate glass which is designed for a printing block. The glass is cleansed and is then ready to receive the preliminary coating, which is a solution prepared of soluble glass, the white of eggs, and water. The mixture is applied to the glass as evenly as possible and the film dried and then rinsed with water. The second stage of the process is the application of a film of bichromated gelatine to the plate, after which the glass is put into the drying chamber. The object to be attained is a fine grain throughout the surface of the gelatine, and unless this surface is satisfactory, the printing block will never be. If the gelatine is too thick, the grain will be coarse; or if the temperature in drying is too high, there will be no grain. The drying is completed in half an hour, when the film is ready for printing under a negative, and this is done in an ordinary printing frame. The exposure is very rapid



N. P. HAYES' HARDWARE STORE.

and here the judgment of the photographer is brought into play. The impression is taken from the pressure frame and put into cold water, where it remains a half hour or more, until the soluble bichromate is washed out. Then judgment is passed and the experienced eye can tell at once what it is fit for. The washed and dried plate should appear like a design of ground and polished glass. A yellow tint means that it will take up too much ink when the roller is passed over it. The appearance of ground glass is given by the grain. If there are pure lights (almost transparent) and opalescent shadows, the plate is a good one.

After moistening in glycerine and water the printing block is ready for the press. The inking and printing are done very much as in lithography. To appreciate how skillful a printer must be it is only necessary to see the imperfect proofs that first result and then watch how these are gradually improved by rolling, rubbing, etching, and cleaning.

After the plate is put on the press a moist sponge is first rubbed over the surface and the plate is then rolled with a soft wash-leather roller, to remove surplus moisture. The ink rollers, which are made of glue composition, are now applied, and two inks, a thick and thin. The thick is first put on and the roller is passed over the plate. Then another roller charged with thin ink is applied in the same manner. A sheet of paper is now laid on the plate, the tympan of the press is lowered, the scraper is adjusted, and a revolution of the wheel completes the printing. The copies then undergo another impression, when an India tint and border and engraved titles are printed. In some factories the titles are printed from type, but at this establishment all titles are printed on a lithographic press from engraved stones.

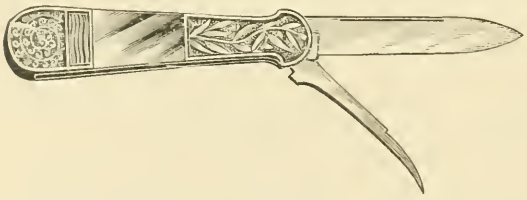
The superintendent of the photographic and artotype departments is Joseph G. Tirrell, who has been in the employ of the firm twenty-seven years.

The plain and colored photographs made by this firm are the best photographic reproductions made in this country. The number of subjects reaches thousands. The establishment also turns out an exquisite line of glace photograph panels, medallion photographs, photogravure etchings on satin, window transparencies, stereoscopic views, art souvenirs, consisting of cabinet photographs from the most popular pictures, mounted on plate paper and enclosed in covers fast-

ened by ribbons, art folios, and pastel drawings. Their Easter, Christmas, and New Year's cards and books are always among the handsomest and most original in the market and skilled artists are constantly engaged in getting up new designs.

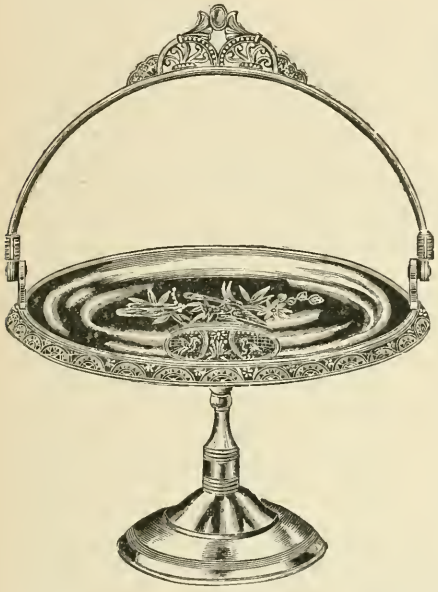
The frame factory at the corner of Water and Spring streets is also an interesting place to visit. The firm calculates to keep ahead of their competitors in this branch of art manufacture and the fact that their designs are imitated everywhere is a species of flattery, even though it may afford only a grim sort of satisfaction. The company buys the plain moulding but it is ornamented at the factory. New styles are constantly demanded. A few years ago plush and velvet frames were the rage. Now the demand is for wooden frames, and the company has in stock three hundred fifty styles of cabinet frames, while about two hundred new styles of ornamented moulding are turned out annually. The average reader may not know that the ornamentation on the familiar gilt and other frames is a composition made of glue, whiting, and other materials, which is affixed to the wooden moulding. This composition resembles putty in appearance and is turned through moulds on which the designs are cut. Some of the ornaments are hand moulded. The cost of the original patterns is considerable and an idea of the magnitude of the business done in the frame department of this establishment may be learned from the fact that fifty tons of composition were used last year. Frames are made of gold, oxidized, bronze, ivory, and natural wood mouldings. The ivory moulding was originated at this factory, and when combined with gold the result is very lovely. Recently an imitation whale's tooth was made as an experiment and it will defy detection. Imitation ivory paper weights are among the novelties recently put upon the market.

The firm employs four travelling salesmen and maintains a salesroom at No. 28 Bond street, New York city.



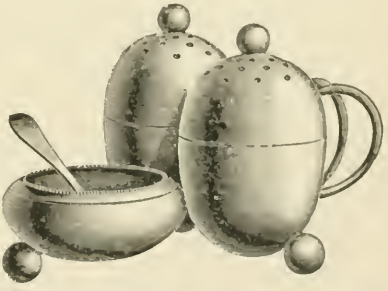
There are but two larger manufactories of silver plated ware in this country than that of the Pairpoint Manufacturing Company, located on the east side of Prospect street, south of Howland street, and the ware has no superior in the American or European market. The stock is

of the best, possessing all the elements of real silver and beauty, finish, elegance, and grace of form, and the product is in a style conforming to the highest rules of art. The company manufactures all varieties of useful and ornamental household goods in great variety, including knives, forks, spoons, cake baskets, and an almost endless variety of table ware, hat, hair, clothes, and crumb brushes, candlesticks, casters, card receivers, communion ware, ice pitcher sets, epergnes, jewel, cigar, and cigarette cases, wine coolers, ash receivers, match safes, etc., etc.



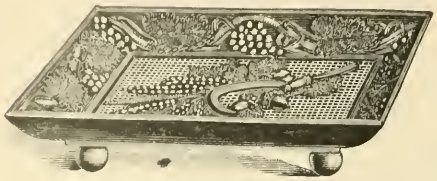
The company organized in 1880 with Edward D. Mandell as president, Alexander H. Seabury as treasurer, and T. J. Pairpoint, superintendent. The capital stock was originally $100,000, but in July, 1887, it was increased to $400,000, at which point it now stands, nearly the entire amount being held in New Bedford.

In the spring of 1880, the first building was erected. It was of brick, one hundred twenty by forty feet in area and three stories high. In 1881 a second building was added. This was of wood, three stories high, and one hundred twenty by thirty feet in area, and, finally, the following year, a four story brick building was erected, one hundred fifty by forty feet in area, so that the area of the workshops is nearly fifty thousand square feet. The company has a branch store at the corner of Maiden lane and Liberty place, New York city, established in June, 1881; a store at the corner of Wabash avenue and Washington street, Chicago, established in 1882; and a San Francisco store at No. 220 Sutter street, established in 1887.



T. J. Pairpoint resigned as superintendent, April 1, 1885, and he was succeeded by Thomas A. Tripp. Mr. Seabury resigned as

treasurer in the following May, and Mr. Tripp succeeded him also. The present officers are:



President — Edward D. Mandell.

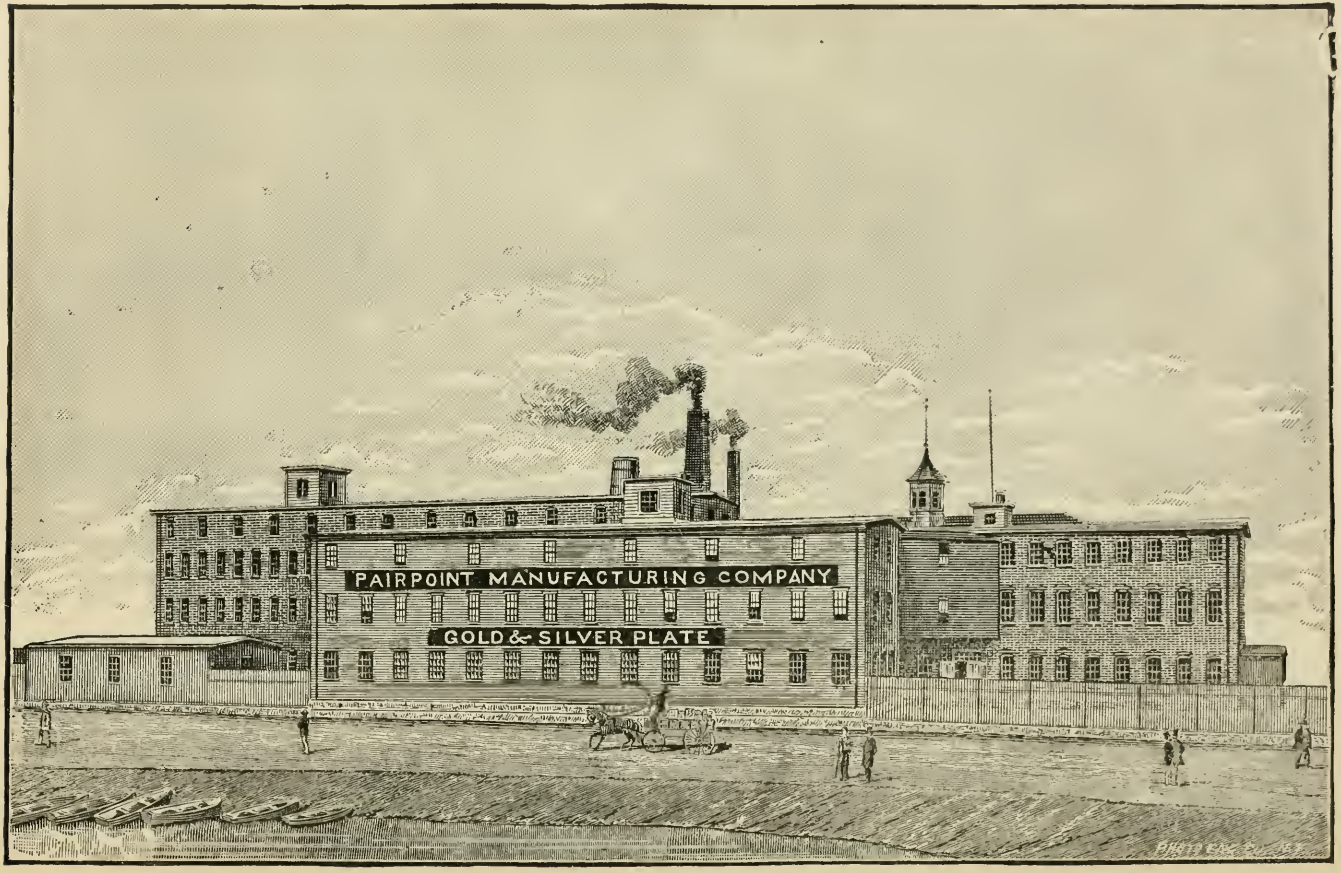
Treasurer and general manager — Thomas A. Tripp.

Directors — Edward D. Mandell, William J. Rotch, William Baylies, Wendell H. Cobb, and Capt. William Lewis, of New Bedford, and John A. Brown, of Providence.

The company employs about three hundred hands in the factory and nine salesmen travelling in different parts of the country. It has a large export trade, many goods being shipped as far as Australia. Nearly all the men are skilled mechanics, and it is estimated that two hundred young men from the schools of New Bedford have learned trades in this factory and become proficient workmen, many of them now having charge of departments.

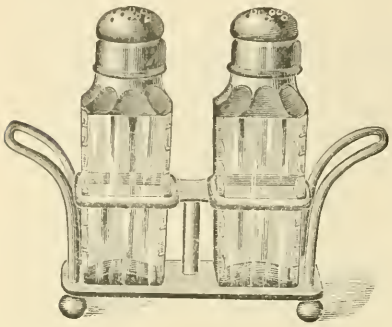
The details of the manufacture are so varied that they cannot be described intelligently in a brief article. Britannia is the base of most of the ware and this alloy is composed of tin, copper, antimony, and zinc. It is mixed and made on the premises and cast into ingots, after which it is rolled into sheets. These sheets are then pressed into blanks or bowls of various sizes, from whence they go to the spinning room. Here the blanks are placed on wooden moulds and spun into the desired form. These forms are embossed or stamped with designs, a hydraulic press, with a pressure of six hundred sixty-three tons, being employed for this purpose. The patterns are designed by skilled artists and cut on steel dies, many of which represent weeks of patient labor. These dies form an expensive stock, their value ranging from $50 to $500 each. Every ornament employed on a piece of silver ware must first be moulded in wax. A mould of plaster of paris is made from this and finally a mould of brass is made. The britannia metal is poured into these moulds and is quickly turned out again, leaving the inside of the moulded handles and ornaments hollow.

It will be seen that a long time is consumed in making moulds and dies for the various articles manufactured, and workmen were employed nearly a year before even a limited variety of styles was put on the market.



WORKS OF THE PAIRPOINT MANUFACTURING COMPANY.

Next the various parts are soldered together and are submitted to various processes of cleaning. Then the articles go into the plating vats, where a deposit of silver is placed upon them from a solution of the cyanide of the metal, through which a current of electricity passes. Parts of many articles are further ornamented by gold plating or oxidizing by a chemical process.



Finally the articles are burnished. Some parts are burnished by machinery, while others are hand burnished. The satin finish, which is very popular, is executed by means of a wire brush, constructed by a patented process. It nicks or scratches the polished surface, producing a frosted effect.

There are many other processes which the article must undergo before completion, which are not named here. Many of the designs are engraved by hand instead of being stamped.

The firm also manufactures ware from German silver. This metal is much harder to work than britannia and the process is materially different. It is in favor at hotels and on railroad and steamboat lines, where the ware is likely to receive rough usage.

Most of the knives, forks, and spoons are made from German silver. The blanks are first cut and afterwards rolled by machine. In this process they become so hard that it is necessary to anneal them in a furnace. Then they are formed and the designs are stamped upon them. They are polished on wheels of walrus leather costing two dollars a pound, and are hand burnished after plating.

An idea of the expense and risk of manufacture may be gained from the fact that every new design of knife, fork, and spoon placed on the market represents an expenditure of several thousand dollars.

A one hundred horse power steam engine is employed and there is a fire pump on the premises with a capacity for pumping five hundred gallons per minute.

The company owns an extensive wharf property.

A great deal of fancy glass ware is employed and many articles of rare beauty are displayed in the show rooms, including the largest epergne in the world. The plush boxes used for

WING BUILDING.

fancy ware are made at the factory. An idea of the variety of articles manufactured may be gained from the fact that the various cuts illustrating the catalogues of the company represent an expenditure of at least ten thousand dollars.

One of the most interesting of the industries of the city is carried on at the Mount Washington Glass Works, in some respects the most notable glass factory in the world. It is here that the beautiful and celebrated Burmese ware was discovered, which, with several other novelties in glass, is exclusively controlled by this establishment. Here also is made a variety of cut and art glass ware which has made the factory's fame for the production of the finest goods as wide as the world.

The business of the Mount Washington Glass Company was brought to this city in the year 1869. It was originally started in 1837 at a factory built by Deming Jarves, then agent of the Boston & Sandwich Glass Company. The original factory was located in South Boston, the business being conducted by Capt. Russell. In 1839 the business reverted to George D. Jarves and was carried on by him, with Mr. Labree at first, and later with Henry Comerais under the firm name of Jarves & Comerais. This firm greatly increased the facilities of the factory by building new furnaces. In 1860, however, they closed the business, and subsequently the factory was hired by Timothy Howe, who proved a most energetic manager. He was joined by W. L. Libbey and a most successful business was carried on. On the death of Mr. Howe, in 1866, his interest was purchased by Mr. Libbey, but in 1869, as the old factory had become dilapidated, he purchased the present works on Prospect street, in this city, which had been built by the New Bedford Glass Company. This latter company had but a short existence, owing to financial difficulties.

The factory was designed by a practical glass maker and is one of the most substantial and complete in the country. It was erected in 1861, and comprises a commodious glass house with a ten pot furnace and an extensive water frontage for landing supplies and the shipment of goods. On the first floor are well arranged annealing kilns, selecting room, mould room, and office. On the second floor is a large machine shop and cutting shop, and on the third floor are the stock and chandelier rooms. On the basement floor are the mixing, packing, and engine rooms, and carpenter shop. There are two elevators, one for light and the other for heavy goods.

Outside the main factory are several other commodious buildings, one, three stories in height, being occupied as a decorating shop. This building is provided with all the necessary adjuncts for this part of the work, including three large kilns for firing the ware.

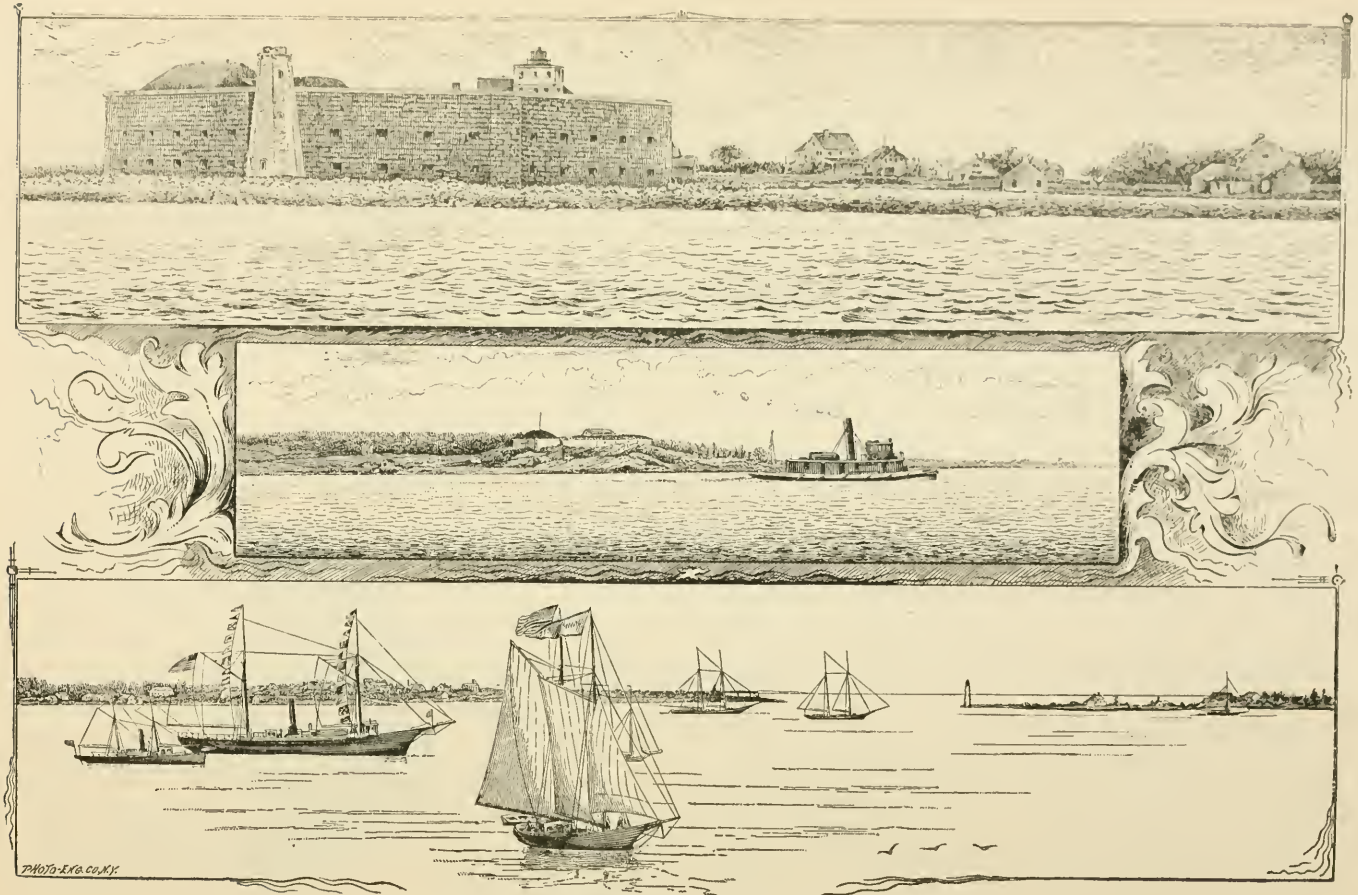
There is a cooper shop, all packages for goods being made on the premises; a large storage building for packed goods, also clay and pot rooms, a blacksmith shop, and boiler house. The company's stables are on an adjacent lot.

After being transferred to this city the business was conducted under its original name of the Mount Washington Glass Works. Soon the increase of business called for more capital and Capt. Henry Libbey became associated with the business, the firm name being W. L. Libbey & Co. In 1871 a stock company was formed, named the Mount Washington Glass Company, with a capital of $100.000, which was afterwards increased to $150,000. W. L. Libbey was appointed agent and Capt. Henry Libbey, superintendent.

In 1872 W. L. Libbey resigned to accept the agency of the New England Glass Company and the management devolved on Capt. Libbey. The business of the company was widely spread, but in the general depression in 1873 the shrinkages impaired the company's capital. Capt. Libbey resigned in 1874 and the factory was closed.

In the fall of the same year the company resumed business, and the management was placed in the hands of the present agent, Frederick S. Shirley, with Robert G. Tobey as treasurer, and Robert King, glass house manager, A. H. Seabury acting as president. The company was reorganized in 1876, since which time it has worked continuously.

In 1881 the facilities of the factory were increased by the



FORT TABER, FORT PHŒNIX, AND COAST SURVEY STEAMER.

erection of an additional glass house on the south, provided with an eight pot furnace.

The late A. H. Seabury was president of the company until his death, July 17, 1887, when he was succeeded by Hon. William J. Rotch. Andrew Snow, Jr., who has grown up in the business, was elected treasurer, and has taken an active part in the management of the business.

This is briefly the history of the enterprise.

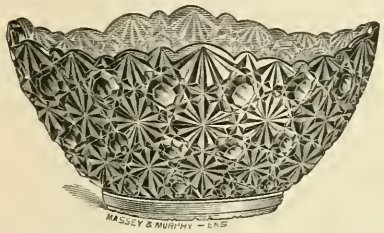
No glass factory in the world produces a greater variety of fine work. The specialties include opal globes, shades for electric and gas lights and lamps, also fine blown goods. Some of the richest cut glass ware is turned out here and this is the only factory in the country where crystal chandeliers are made complete. The factory also produces a line of decorated lamps and vases of the finest grades, as well as art glass ware. The lovely Burmese ware met with such success as to attract the patronage of royalty and the company was recently favored with a special order from Her Majesty Queen Victoria. The productions of the company are widely known and are in good demand.

The writer was recently shown over the factory. The first stage of the manufacture is to be witnessed in the basement, where the ingredients of the glass are mixed in a large trough. Silica or sand is its principal element and that used here is from the Berkshire mines. It is very white and fine. The silicic acid, or silica, combines with potash, soda, oxide of lead, alumina, lime, and other substances that may be added to produce silicates of these bases, which are classed by the manufacturer as fluxes. Waste glass forms a considerable proportion of the raw material, promoting the fusion and the chemical union of the silica and the bases mixed with it.

The main stock contains ten pots, and the furnace in which they rest is twenty-two feet in diameter. The coal is fed through a flume and five tons of coal are consumed every twenty-four hours. By an arrangement of the draughts, the heat becomes most intense, the flame being heated to incandescence. These fires are seldom allowed to go out, as the pots would crack, rendering the operation expensive. The present fire at the Mt. Washington works has burned continuously for four years. Previous to this time it had not been out during eight years. The nose holes in the furnace bear the suggestive name of "glory holes."

There is also another furnace for reheating the glass at different stages of its manufacture. Oil is used in this furnace and the heat is intensified by the use of a super-heated steam blast.

The melting pots are made of clay, and in order that they may withstand the excessive heat and the action of the various melted ingredients, their construction is an object of special solicitude. The material used at these works is the Stourbridge fire clay, which comes from England. Missouri clay is also used to some extent. It is first carefully trod by barefoot men, until it is prepared for moulding. The average pot is about four feet high and four feet in diameter at the top and somewhat smaller at the bottom. It holds about a ton of glass. The pot is built entirely by hand, and only a small part is constructed each day. When a few inches of the walls are built up, cloths are placed over the fresh clay and the moisture is thus absorbed. The top of the pot is made in the form of a hood, with a small opening near the top corresponding with the nose hole of the furnace, and from which the workman withdraws the melted glass. The life of these pots varies from a few weeks to six or even eight months. Sometimes they crack and sometimes the action of the glass ingredients eats a hole through the clay where an imperfect stratum exists. These leaks are detected as the glass runs out through the grating of the furnace underneath. When the leak is in front of the pot, a part of the setting is sometimes torn away and a blast of cold air is allowed to strike the pot. The glass in the crack hardens and the leak is thus permanently stopped. This is called "concaving" a pot. Usually, however, as much of the glass is bailed out and saved as is possible, and new pots, which are kept in a furnace in preparation, are substituted. When the glass is being bailed, great clouds of steam arise, and, condensing on the iron roof, it falls to the floor like a shower of rain.



The ingredients of the glass are heated to a white heat and then the heat is raised as rapidly as possible. The contents of the pot are kept in a state of perfect fluidity for from ten to thirty hours, or until the bubbles disappear and the insoluble matters settle, when the furnace is allowed to cool until the metal has become viscid, when it can be taken out and worked.

Work commences in the glass making department at 1 o'clock on Monday morning and the men are divided into two gangs. The gang which commences work at this hour works until 6 o'clock in the morning, then recommences work at 1 p. m. and continues work until 6 o'clock in the evening. The second gang works between the hours of 7 and 12 o'clock a. m. and p. m. These periods of work are called "moves" in the vernacular. The workmen are divided into gangs of four. There is the "gatherer," who takes the requisite amount of glass from the pots on the end of a blow pipe, the "sticker up," who reheats it, the "servitor," who does the preliminary work, preparing it for the "gaffer," who does the finishing.

It is a singular fact that the tools employed have not changed for two hundred years or more. The first in importance is the blowing tube, which is of wrought iron, four or five feet in length, with a bore one quarter inch and diameter one inch. Tongs are exclusively employed to shape the various articles, and the most beautiful vases are made by the use of these. Purcellas are heavy tongs, sometimes furnished with broad, blunt blades of wood, and these are principally used in forming the articles. The vessel in process of manufacture is frequently applied to the furnace opening to soften it.

When completed, the articles are removed to the annealing oven, in which they are left to be tempered. This removes the quality of brittleness, exhibited by the familiar Prince Rupert's drops. The glass ware is moved along in the annealing ovens, through a constantly decreasing temperature, until it emerges into cold air. Some of the ware becomes annealed in twenty-four hours, but the nicest heavy glass, intended to stand the friction of the cutting wheels, is a week in passing through the ovens.

It is not the purpose of this article to go into the interesting details of glass manufacture, but rather to allude to the peculiar work done at this factory.

Formerly the company was engaged extensively in the manufacture of lamp chimneys and pressed work, but it has now almost entirely abandoned these branches of the business to the western factories.

The introduction of electric lighting has created a demand for a new line of goods. This company has a contract with the managers of a prominent arc lighting system for furnishing all the globes used by them. About ten thousand of these globes are kept continu-

SANDERS & BARROW'S CLOTHING STORE.

ally in stock and some weeks as many as five thousand are shipped to the plants controlled by the company. These globes are shipped to foreign lands, even as far as Australia and Egypt. It is interesting to think of shipping glass from New Bedford to the latter country, where the manufacture of glass was certainly practiced as long ago as three thousand years before Christ. The bulbs for Edison lamps are also blown here and the company makes one hundred fifty varieties of incandescent lighting shades.

Amberina, or rose amber ware, which is a transparent and effective combination of glass, shading from ruby to the most delicate amber tint, in which the popular optical and hammered effects are produced, is made here, and the circumstances of its introduction on the market are interesting. When ruby glass, which, by the way, receives its coloring from an oxide of gold, comes from the pot, it is amber in color. In making red glass the articles were reheated, when the red color developed. It was the practice to reheat first one end of the vessel and then the other. When one end of the article was reheated the result was the ware now known as amberina, but in this state it was considered as unfinished. At length two companies, of which the Mount Washington was one, conceived the idea of trying the public with this variegated ware. It caught the popular fancy and was all the rage for about two years. The amount of gold used in the glass is indicated by the fact that the residuum in the bottom of the old pots in which this glass is made is carefully chipped off, and globules of gold are found precipitated, sometimes to the value of thirty or forty dollars.

The success of amberina suggested to F. S. Shirley, the agent of the works, that an opaque shaded ware would be a novelty. The introduction of Burmese ware opened a new era in glass making and created a sensation at once. Its loveliness is due to its translucency and blending tones of color, from a flesh pink to a yellow. It has been graphically described in an English journal as "the dawn of another day," which term aptly designates the roseate tints of color blending into each other.

Mr. Shirley developed the pink shade with oxide of uranium, the price of which has advanced from four dollars to six dollars since Burmese ware was put on the market. He judged that a combination with yellow glass would be most effective, and patented his discovery in 1883. The glass is finished with either a glazed or plush

finish, but the latter is most popular. This ware is now manufactured by only two factories in the world: the Mt. Washington Glass Company and by Thomas Webb & Sons, England, who are licensed under the former's patents.

The following letters explain themselves:

BALMORAL, 8th September, 1886.

Major Edwards presents his compliments to Mr. F. S. Shirley:

He has been commanded to convey to him the Queen's thanks for the beautiful specimen of the ware of the Mt. Washington Glass Co., which he has been good enough to forward for Her Majesty's acceptance. And Princess Beatrice has also at the same time desired Major Edwards to express her sincere thanks for the very pretty vases Mr. Shirley has presented to her Royal Highness.

BALMORAL, 17th September, 1886.

DEAR SIR:

I have to thank you for your telegram and was not aware you had left England.

I am commanded by the Queen to ask you to supply, on Her Majesty's account, the following articles, in similar ware to that recently presented to her:

1. A tea set of the same description, but not necessarily of precisely the same pattern as that presented.

2. Two pairs of vases, something similar to those presented to Princess Beatrice, but the two pairs might be slightly different.

When ready, would you please forward them to Buckingham Palace, London? Yours faithfully, F. EDWARDS.

TO F. STACEY SHIRLEY.

Sir Henry Ponsonby has to acknowledge the receipt of the articles in glass which Mr. Shirley has forwarded to the Queen, and begs to say that Messrs. Drexel, Morgan & Co., of New York, have been instructed to pay £250 to Mr. Shirley for these articles.

Sir H. Ponsonby is also commanded to convey to Mr. Shirley the expression of the Queen's thanks for the objects, which, as he intimates in his letter of the 8th December (addressed to Major Edwards), he has offered for Her Majesty's acceptance.

January 13th, 1887, Privy Purse Office,
Buckingham Palace, S. W., London, Eng.

Four vases were also sent as a present to President Cleveland's bride, which were acknowledged in a letter from the president, who wrote, "They are highly prized as evidencing the kind consideration of the company, while they illustrate the perfection and excellence of its manufactures."

LOOKING EAST FROM THE HIGH SCHOOL TOWER.

The pearl satin ware is also made at the works and a patent has been granted to the company for the same. The pearl satin ware is blown into a mould provided with projecting points, bands, or other ornamental designs, so as to form depressions in the article so blown. The interior body is then dipped and covered in a shell of sensitive glass which seals or protects the air in the cavities. The article is then finished in any desired manner. This ware has a novel and lovely effect, the surface being finished in a lustreless, velvety skin.

Cameo ware is also made here. This involves the process known as "casing." By this process articles, when partially blown, are inserted into a thin shell of glass of another color prepared for their reception.

These are but a few of the varieties of glass ware manufactured. Each variety involves many interesting and curious details and processes.

Cut glass is a specialty with the company and their patrons include some of the most celebrated dealers in the world. About fifty men are employed in the cutting room, and in addition to the more common patterns, the company has copyrighted a number of special designs, including the "Electric," "Thurber," and "Dauntless" patterns. These designs are copyrighted that the company may be protected from the pressed glass makers, who crib the popular patterns for the cheaper moulded ware. This latter can be easily detected, as it never exhibits the lustre or clearly cut configurations of the cut or ground glass. The cutting is executed by the use of three wheels. The surface is first applied to the face of revolving disks of iron, fed with fine sand and water. The marks of the rough grinding are then removed by a smooth grindstone, and the polishing is completed by wooden or brush wheels, to which a putty powder of tin and lead is applied. This powder and also the brush wheels are made on the premises. At their show rooms the company now exhibits a toilet table made almost entirely of cut glass. This displays remarkable skill and beauty. It is piped for gas or can be wired for electric lights, and its value is five hundred dollars.

The decorating is done in a three story building on the premises, which is entirely given up to this department. Albert Steffin is the superintendent in this department and designed the elegant decorated Burmese sent to the queen. This pattern has now become famous and is known as the "queen's" design. It conventionalizes a number

of flowers and is in raised enamel. Much of the decorating is done with pure gold, reduced with acids, and the effect of the rich gold with the mellow shades of the Burmese is very lovely. The maiden hair fern design on lamps and shades of lustreless white glass is one of the most tasteful pieces of glass ware ever put on the market. Some others of the latest designs are the "tapestry," the "Persian," the latter giving the effect of inlaid enamel, the new lace pattern, and the "Egyptian" design, in which the pyramids and palms are conspicuous. There is also a design of fish swimming in a net of gold which is very attractive. The colors are of mineral composition and are fused into the material by baking in the kilns. At the same time they undergo a chemical change which develops the brilliancy and transparency. The salt, pepper, and sugar sifters, in the form of decorated eggs of glass, originated here and have proved a very successful Easter specialty. The decorated ware turned out here is of the highest grade, prepared for the finest trade.

The company's employes number two hundred fifty and the annual pay roll aggregates over one hundred thousand dollars. The company employs two travelling salesmen and maintains a fine store at No. 46 Murray street, New York city.

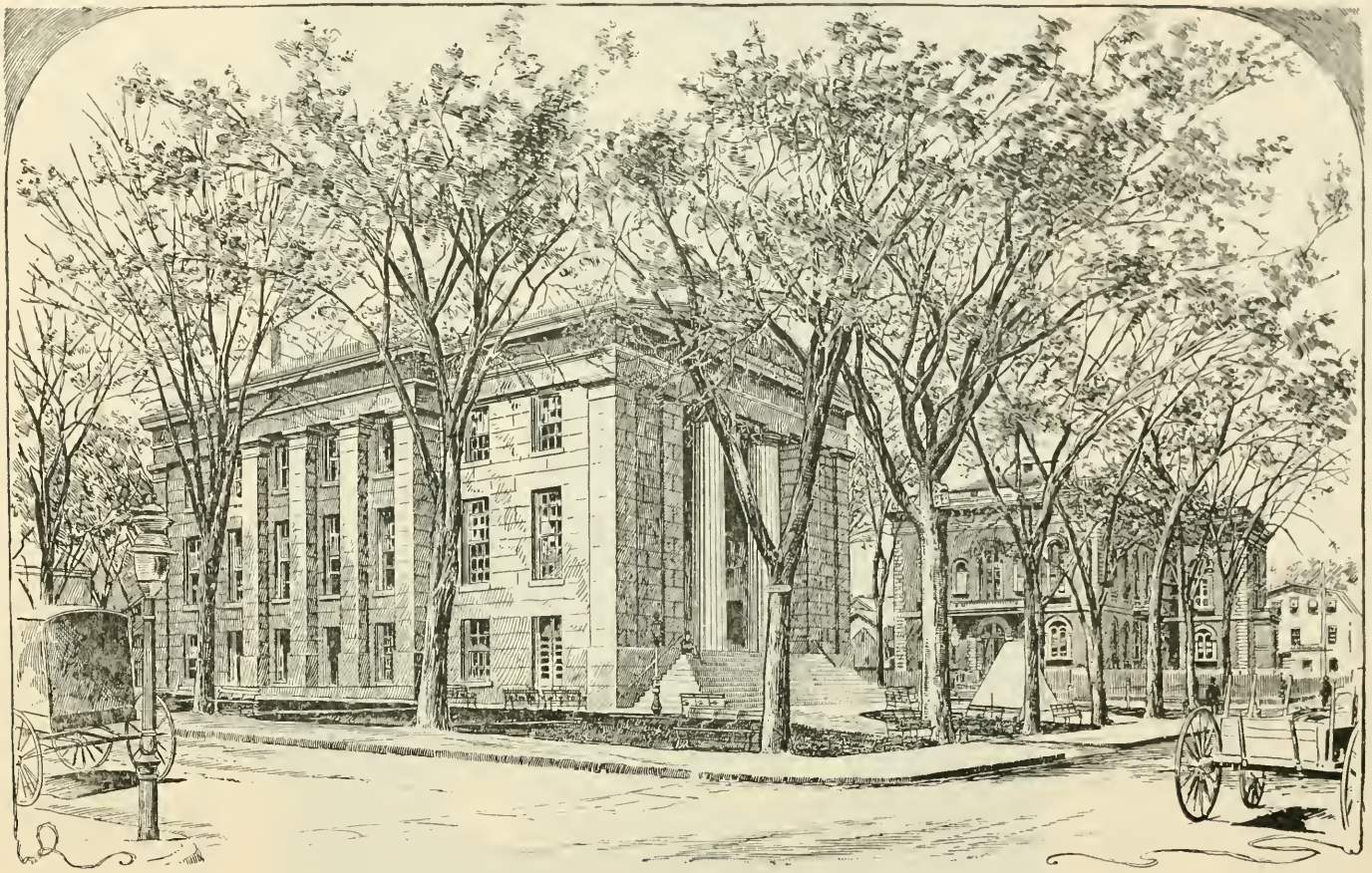
During the year there are consumed at the factory about fifteen hundred tons of coal, two thousand barrels of crude petroleum, two hundred tons of coke, one hundred tons of packing hay, and five thousand packages, such as casks and barrels for shipping. These, with the lumber, clay, and brick used, require the presence of a vessel at the wharf almost continually through the year.

The present officers of the company are:

President—William J. Rotch.
Agent—Frederick S. Shirley.
Treasurer—Andrew Snow, Jr.
Directors—William J. Rotch, William W. Crapo, Jonathan Bourne, Edward D. Mandell, Oliver Prescott, and George R. Phillips.

Not long ago a gentleman went into one of the largest stores in New York where art pottery and glass ware are sold, and, approaching a counter upon which some very beautiful lamps were displayed, tapped one of the decorated shades and asked the salesman if he wanted to purchase a stock of those goods.

"Those goods are imported, sir," was the reply. "They are from the Royal Worcester works."

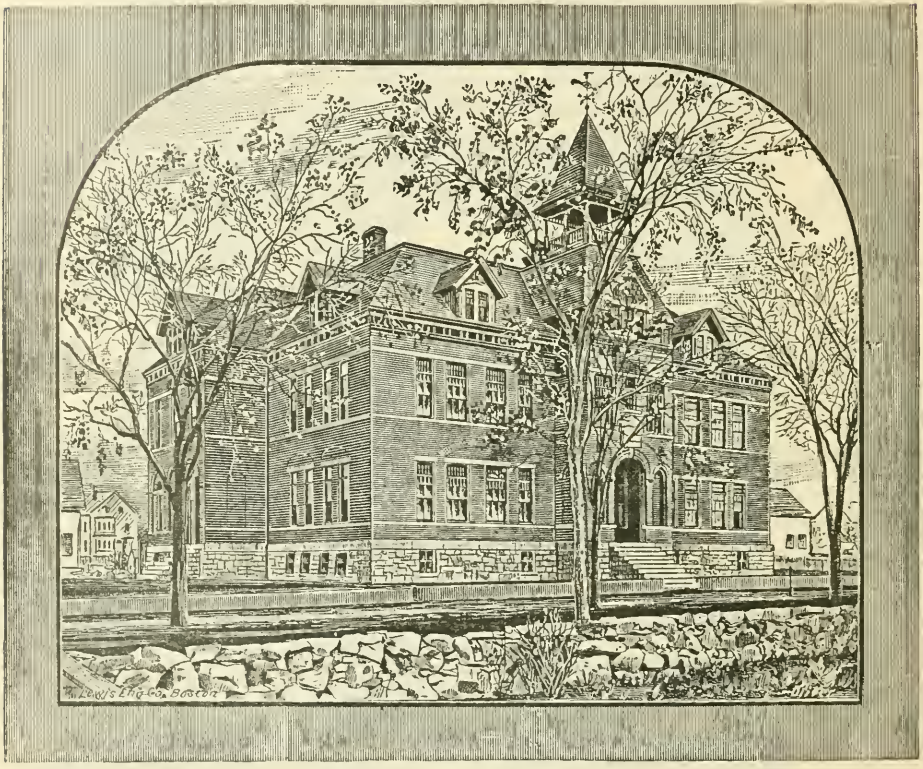


CITY HALL AND FREE PUBLIC LIBRARY.

"I beg pardon," said the gentleman. "The vase of the lamp is Royal Worcester, but the shade was decorated in this country."

The salesman denied this and said he would call the buyer for the firm, who happened to be present.

The latter was called and substantiated the statement that the article was imported.



THOMPSON STREET SCHOOL HOUSE.

"That shade was made in New Bedford, at my shop," said the gentleman.

"Well, who are you, then?" was asked.

"I am one of the firm of Smith Brothers," was the reply.

The buyer expressed much surprise, and having purchased the goods of an importer, said he had always supposed the shade was made across the water. That such work was executed in this country was a revelation to him.

It is a fact that the glass decoration done in New Bedford cannot be excelled anywhere in the world, and the firm of Smith Brothers is

intimately connected with the development of the industry in this country. The father of Messrs. Alfred E. and Harry A. Smith, who constitute the firm, was the pioneer in the glass decorating business in this country. He came here from England about the year 1851, at which time the art was in its infancy, under contract with the Boston & Sandwich Glass Company, and encountered many discouraging obstacles. In the first place, the taste of the people had not been educated to an appreciation of the work. When Mr. Smith left England, the excavations at Nineveh and Pompeii had created a demand for reproductions of ancient pottery on which Grecian and Roman borders and figures were painted in black. The demand for such goods had reached the proportions of "a rage." The first difficulty in reproducing these articles here was encountered in the effort to obtain suitable ware to decorate. The workmen couldn't make the vases. There were hardly two blanks alike and it was a good deal of trouble to match the vases into pairs. When the goods were put on the market, the dealers sent word that "they didn't want any more of those niggers." Alfred was in the employ of his father at this time and was the first artist in this country to put enamel colors on a cone shade. The experiment was not a success. The colors which the decorator had at his disposal were manufactured in a crude way, being simply glass ground to an impalpable powder. But the glass of which the shades were made was so easily fusible that they would not stand the ordeal of fire in the kilns.

Nearly discouraged, Mr. Smith looked about to see in what direction his art could be utilized and rendered profitable. At that time fluid lamps were in common use, and the experiment of gilding

designs on the lamps and pedestals was tried. It was found that the glass would stand fairly well a "gold" fire, or the temperature required to make the gold unite with the glass, and the new idea was an instantaneous and brilliant success. Everybody wanted decorated lamps and hundreds of thousands were made. Occasionally enamel colors were tried, but the glass was unsuitable.

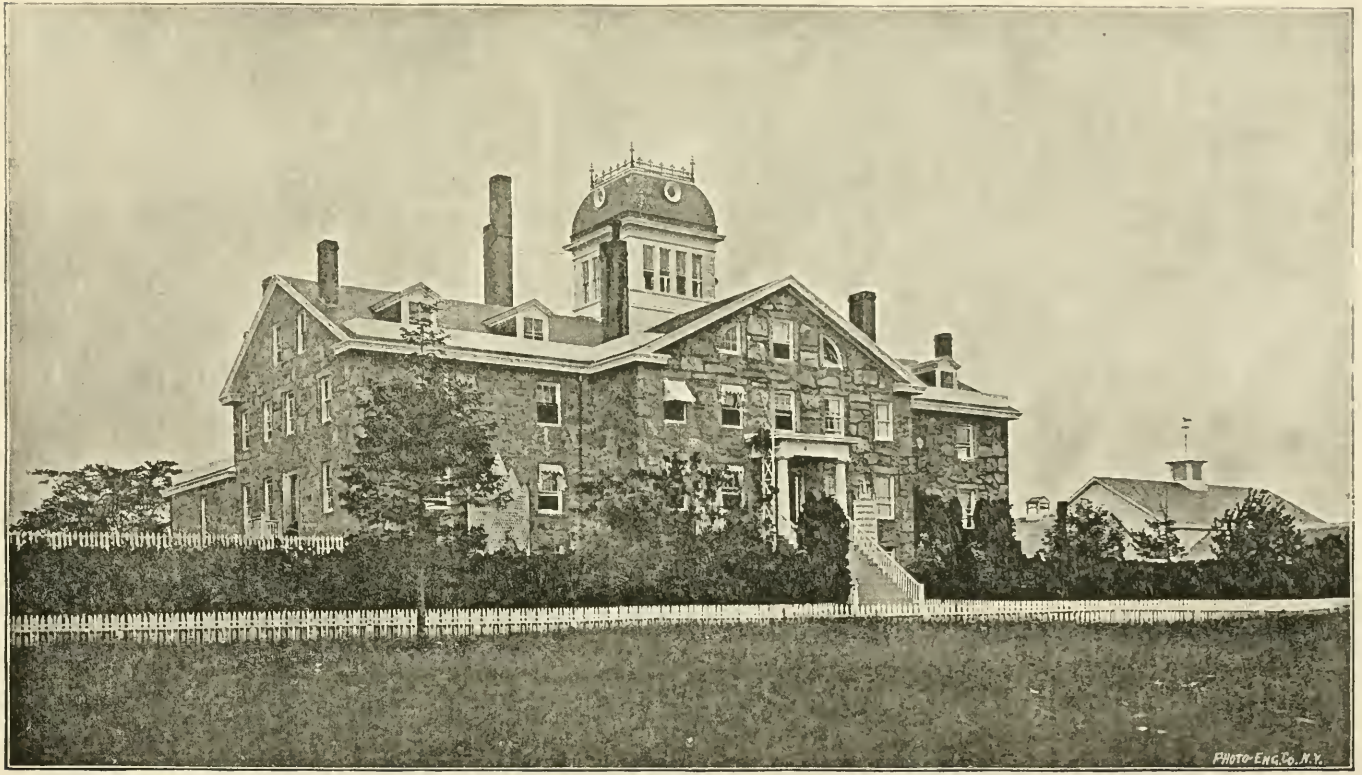
Still the decorators yearned for a broader field and the Smiths commenced reducing the colors with flux, causing them to fuse at a lower temperature, but this, of course, affected the quality of the color. The problem was solved years after by the Messrs. Smith. It was another phase of the story of the mountain which would not come to Mohammed. The blank shades were imported and Smith Brothers were the first decorating firm to order shades from abroad, prepared for their purposes. Subsequently all the decorators followed their example.

In addition to gilding lamps, Mr. Smith introduced a new style of apothecary's ware, which was afterwards driven out of the market by the invention of the recessed labels.

After a few years, the elder Smith severed his connection with the Boston & Sandwich Company and established the Boston China Decorating Works, now managed by Levi Cooley, who formerly fired kilns for Mr. Smith.

In the spring of 1871, Messrs. Alfred E. and Harry A. Smith came to this city under contract with William L. Libbey and established a decorating department at the Mount Washington Glass Works, starting with eight or ten workmen. Two years previously, decorated ring cone shades were introduced and they were now in good demand. The decorating department here was a success from the outset. At the expiration of three years the Messrs. Smith hired the department, bought the stock, and have since conducted the business. The reputation of the firm of Smith Brothers is now world-wide and the brothers rank first in their particular line. They have graduated some of the best workmen in the country and in addition to the young men under their instruction, employ some of the best artists from abroad.

About four years ago the firm removed to the building Nos. 28 and 30 William street, which it now occupies. The building is three



THE CITY ALMSHOUSE.

stories high, fifty by eighty feet in area, and is completely equipped in every respect. There are four kilns, and about thirty workmen are employed.

The firm has kept pace with the rapid advance in the education of the taste of the people. At first only ordinary work was required, but now there is a demand for a line of artistic work which was never dreamed of a few years ago. After the rage for ring cone shades had subsided, the firm turned its attention to the decoration of vases, and produced thousands. These vases were nearly all sent to the silver plating works for mounting, a great many being decorated for Reed & Barton and the Meriden Britannia Company. What is everywhere known as the "Smith vase" was first made here, and no vase ever had so great a run of popularity. Finally the pattern was copied. Horace Partridge placed it in the dollar stores and the country is now flooded with reproductions.

Berry and similar dishes were also made. Then dome shades became the fashion, but at first they were made almost exclusively for the chandelier companies. The decoration of lamps has lent a new impetus to the business and the firm is now decorating a great many lamps and jars.

The lamp vases and shades painted here are exquisitely beautiful and artistic. Some of the best effects are obtained on shades of white with a bisque finish. Oriental scenes are painted in the most delicate colors and are of dreamy beauty. When lighted, the effects are lovely, and the details of the work will bear the most careful inspection. Conventional designs in enamel and gold, with Etruscan or burnished finish, are very popular and artistic. The firm also decorates shades on special orders and local landscapes are frequently utilized. While imported porcelains yet hold sway, but little if any decorated glass ware is now sent to this country. Baccara, of Paris, once sent the finest decorated shades to this country, but such work as that done at the establishment of Smith Brothers has driven foreign manufacturers from the market.

When the people are ready to pay the price for domestic decorated porcelains that they will pay for Royal Worcester and other imported ware, Smith Brothers can undoubtedly produce goods which will equal and excel them in artistic beauty and effect. The prices paid for decorated glass ware are very low for the standard of work required. A ten-inch shade, for instance, calls for a painting thirty

inches in length, which must equal in excellence that of a painting by an artist on canvas. But greater skill and judgment are required by the painter on glass. None of the clear, bright colors are perceived until the work is completed and the paint is fused into the material. The artist consequently labors under great disadvantage in applying the materials that are to produce the colors. A difference of ten or twelve degrees in the temperature of the kiln makes or mars his work. Every article must be tried by fire. If the kiln is too hot the article is warped and ruined. When it is taken into consideration that in some instances the variety of colors requires an article to pass through the kiln three times before it is completed, the reasonable price of decorated glass ware is to be marvelled at.

Within a few months the firm has engaged in glass cutting. A number of fine workmen are employed and some beautiful specimens of the cutters' art are turned out at the factory.

This firm made a display at the centennial exposition which was a revelation to the country, and it received diplomas over every other competitor for the special excellence of its work.

The King Manufacturing Company manufactures frames and artistic novelties at No. 147 North Water street. This company was incorporated in 1883 and its capital is $20,000. The following are the officers of the company:

President—George S. Homer.
Treasurer—Charles E. Barney.
Directors—The above, with William H. Washburn, Frank C. Smith, and Henry P. Jenney.

A factory of brick, thirty-five by one hundred sixty feet in area, two stories high, was erected by the company, and equipped with the most modern machinery and appliances. The firm makes a specialty of pastel or crayon drawings and of fancy frames for original pictures. Such is the demand for pastels made by this establishment that the firm is usually five or six weeks behind on its orders. The pastels are made in sizes ranging from eight by ten inches to large pictures, thirty by forty inches. This firm is the only manufacturer of permanent pastels on porcelain panels, the process of fixing the colors so that they will not rub being a secret. The effect of the drawings on white panels of etched glass is very dainty and charming. The company also manufactures toilet mirrors, cabinet frames, toilet novelties, broom cases, mouldings, mats, wall pockets,

brackets, towel racks, parlor screens, hat racks, wall cabinets, clock and book shelves, artotype cases, parlor, album, and table easels, and photograph and water color panels. It has a branch factory at Newport, where photographs are made and artotype photographs and etchings are printed, and about ten thousand of these prints are kept constantly in stock.

The firm makes many nice frames to order for etchings, upon which "remarks," as they are technically called, are carved. These "remarks" are designs suggested by the subject of the pictures.

About one thousand designs of bronze, gold, ivory, and natural wood mouldings are kept in stock, and the ornaments are made here. The moulds employed in their manufacture are sunk on the premises as well. This firm makes a larger variety of turned circular frames than any other company. It keeps in stock about four hundred styles of cabinet and wall brackets, as many styles of fancy frames, and about two hundred styles of parlor easels.

The firm employs about one hundred twenty operatives in the busy season and keeps four travelling salesmen on the road.

The firm of Peirce & Bushnell, manufacturers of picture frames, photographs, and art novelties, was formed in 1870, Mr. Peirce severing his connection at about that time with the firm of Charles Taber & Co. Mr. Bushnell died in 1882, and in the spring of 1887 the business passed into the control of a new corporation, known as the Peirce & Bushnell Manufacturing Company, which organized with a capital stock of $30,000 and with the following officers:

President—William D. Howland.
Treasurer and clerk—Arthur G. Grinnell.
Directors—The above, with Walter Clifford, Charles W. Plummer, and George H. H. Allen.

The building occupied by the firm is on the east side of North Water street, numbered 72 and 76. It is three stories high, with ells at the south and east. The offices, sample and stock rooms, and the photographic department are located in the main building. In the south ell are the polishing and packing rooms and in the east ell are the bronzing, mat, and gilding rooms and the frame shop. In the busy season about one hundred fifty hands are employed at this establishment. The space occupied by the various departments is about one hundred thousand square feet.

Photographs, picture frames, mouldings, brackets, cabinets,

easels, wall pockets, and holiday novelties are made here, and the firm will not yield the claim for first place in the manufacture and coloring of photographs. As at the two other factories in the city the frame mouldings are ornamented and carved on the premises, from original designs, and the goods stand well in point of artistic excellence with any made in the country. The company has a New York office on Great Jones street, and employs three travelling salesmen.

L. A. Littlefield, manufacturer of trimmings for glass ware and electroplater, has built up a thrifty and constantly increasing business at No. 134 Union street. At the present time he is principally engaged in the manufacture of caps for pepper, salt, and mustard bottles. He employs four men, and electric motors furnish power for his lathes. Mr. Littlefield also does a large business in silver and nickel plating. He commenced business here with George Needham, under the firm name of Needham & Littlefield, in 1884. Mr. Needham withdrew from the firm in April, 1888.

Fred H. Sargent is engaged in gold, silver, and nickel plating at the corner of Pleasant street and Mechanics lane. He employs the "close plating" process, plating carriage trimmings and other new goods, as well as replating articles.

Charles F. Folger, manufacturer of cabinets, easels, brackets, and screens, started business in 1884 and occupies the entire three story factory, Nos. 133, 135, and 137 South Water street. He employs between fifteen and twenty skillful workmen and makes wood mantels and sideboards to order. He is also prepared to fit offices and do general inside finishing for stores and halls, and wood turning and jig sawing as well. Mr. Folger has a salesroom at No. 264 Canal street, New York city, and J. P. Howatt acts as his general agent.

F. Bertram Aulich carries on glass decorating in the three story brick building Nos. 23 and 25 Union street, and makes a specialty of the decoration of lamp goods, vases, plaques, and alabaster tiles. He has been established in business about six years and employs thirteen men.

BANKS AND BANKING.

The banking facilities of New Bedford are unusual for a city of its size, the capital and surplus of our national and savings banks aggregating considerably over twenty million dollars and exceeding by several million dollars the entire valuation of the city forty years ago.

The First National Bank, at the southeast corner of Union and Second streets, was formerly the Marine Bank, which was organized April 3, 1832, with a capital of $200,000. The first board of directors comprised Joseph Grinnell, Nathaniel Hathaway, Kimball Perry, Joseph S. Tillinghast, Alexander H. Campbell, Ephraim Kempton, Benjamin Russell, Joseph R. Anthony, and William W. Swain. In 1833 the capital was increased to $300,000, in 1851 to $500,000, and in 1855 to $600,000. Joseph Grinnell was its first and only president, and John E. Williams, William M. Sisson, and John P. Barker were the cashiers. This bank was the first national bank in the city and was among the first in the state to adopt the national system. This was in 1864, when its name was changed to that which it now bears. The directors were Joseph Grinnell, Ward M. Parker, William Gifford, Edward W. Howland, Edward C. Jones, Lemuel Kollock, George F. Barker, Otis Seabury, and Ivory H. Bartlett, Jr. Joseph Grinnell continued to act as president of the bank until January, 1878, when he was succeeded by Edward W. Howland, and finally by William Watkins. In 1860 the capital was increased to $1,000,000, at which amount it now stands, and the surplus aggregates $200,000. The bank has been since its organization a designated depository of the United States. In 1874, Walter P. Winsor succeeded Mr. Barker as cashier, a position which he now holds. George B. Hathaway is the teller.

The directors since the organization as the Marine Bank, with the years in which their terms of service began and ended, have been as follows: Joseph Grinnell, 1832 to 1885; William W. Swain, 1832 to 1845; Nathaniel Hathaway, 1832 to 1837; Joseph S. Tillinghast, 1832 to 1835; Joseph R. Anthony, 1832 to 1840; Kimball Perry, 1832, six months; Alexander H. Campbell, 1832 to 1834; Benjamin Russell, 1832 to 1833; Ephraim Kempton, 1832 to 1863; Stephen

Merrihew, 1832 to 1837; William C. Taber, 1833 to 1857; James Howland, 2d, 1834 to 1861; Atkins Adams, 1835 to 1850; Alexander H. Seabury, 1837 to 1840, and 1867 to 1887; Edward C. Jones, 1837 to 1880: Ward M. Parker, 1840 to 1881: Lemuel Kollock, 1840 to 1888; Edward W. Howland, 1845 to 1879; William Gifford, 1851 to 1866: George F. Barker, 1857 to 1865; Otis Seabury, 1860 to 1875; Ivory H. Bartlett, Jr., 1862 to 1865; James Henry Howland, 1865 to 1884: Joseph C. Delano, 1865 to 1886: Charles H. Gifford, 1866 to 1881: John P. Knowles, 2d, 1867 to 1887: Samuel P. Burt, 1871 to 1875: Abram T. Eddy, 1876: Walter P. Winsor, 1879; William Watkins, 1879; Thomas M. Stetson, 1880; Edward S. Taber, 1881: Edmund Grinnell, 1882 to 1888: William Baylies, 1885; Edward T. Pierce, 1886: Humphrey W. Seabury, 1887; Savory C. Hathaway, 1887: Matthew Luce, 1888: Sidney W. Knowles, 1888.

The present officers are as follows:

President — William Watkins.
Cashier — Walter P. Winsor.
Directors — Abram T. Eddy, Walter P. Winsor, William Watkins, Thomas M. Stetson, Edward S. Taber, William Baylies, Humphrey W. Seabury, Savory C. Hathaway, Edward T. Pierce, Matthew Luce, and Sidney W. Knowles.

The history of the National Bank of Commerce is of peculiar interest. In 1803, we read that the business of the town had increased sufficiently to warrant the establishment of a bank and The Bedford Bank was incorporated with a capital of $60,000. At the outset it was thought this amount would be more than could be loaned, but in 1804 it became necessary to increase the capital to the enormous sum of $150,000. In 1812, the old charter expired and as the country was then at war with England, the state of business was deemed so precarious that the affairs of the institution were concluded. Thomas Hazard was the first president and John Pickens was the cashier. Among the first directors were John Howland, Cornelius Grinnell, William Rotch, Jr., and Thomas Nye.

There was no bank in New Bedford for an interval of four years, but in 1816 the Bedford Commercial Bank was established with a capital of $100,000, which was increased in 1821 to $150,000; in 1825 to $250,000: in 1831 to $400,000, and in 1851 to $600,000. Joseph Ricketson was elected cashier at a salary of $500 per annum, and

NATIONAL BANK OF COMMERCE.

John Avery Parker, Cornelius Grinnell, Gideon Howland, George Howland, Seth Russell, Jr., James Arnold, Joseph Ricketson, Thomas Nye, and Samuel Rodman, Jr., were chosen directors, with George Howland as president. The old bank building was a quaint affair and the subterranean vaults were calculated to defy the efforts of thieves who might be disposed to break through and steal. George Howland was president of the institution until his death in 1851, when Edward Mott Robinson was elected to the position. He filled the position until 1860, when Thomas Nye, Jr., succeeded him. Thomas S. Hathaway held the office from 1869 until 1878, and Francis Hathaway, the present incumbent, was elected in 1878.

The Bedford Commercial Bank was organized as the National Bank of Commerce, December 19, 1864, and Thomas Nye, Jr., William J. Rotch, Thomas S. Hathaway, George Hussey, Matthew Howland, Charles L. Wood, William Hathaway, Jr., Thomas Knowles, Henry Taber, and William C. N. Swift were elected directors. In 1874 the capital stock was increased to $1,000,000, which is its present capital. The surplus is now $200,000.

The directors of the bank since its organization in 1816, with the years of their term of service, have been as follows: John Avery Parker, 1816 to 1825; Cornelius Grinnell, 1816 to 1831; Gideon Howland, Jr., 1816 to 1825; George Howland, 1816 to 1852; Seth Russell, Jr., 1816 to 1834; James Arnold, 1816 to 1836, 1837 to 1838, 1840 to 1854; Joseph Ricketson, 1816 to 1842; Thomas Nye, 1816 to 1831; Samuel Rodman, Jr., 1816 to 1849; Nathaniel Hathaway, 1825 to 1832; Thomas Rotch, 1825 to 1826; Charles W. Morgan, 1826 to 1848; Joseph Grinnell, 1831 to 1832; William T. Russell, 1831 to 1837; Thomas S. Hathaway, 1832 to 1878; Jireh Perry, 1832 to 1849; Thomas Nye, Jr., 1834 to 1869, 1871 to 1883; Edward Mott Robinson, 1836 to 1840, 1848 to 1860; William Hathaway, Jr., 1838 to 1886; Abraham H. Howland, 1842 to 1847; Charles L. Wood, 1847 to 1882; William C. Nye, 1849 to 1850; William C. N. Swift, 1849; George Hussey, 1849 to 1866; William J. Rotch, 1852; Matthew Howland, 1852 to 1885; Frederick Parker, 1859 to 1862; John Hunt, 1860 to 1862; Henry Taber, 1862; Thomas Knowles, 1862 to 1878; John H. Clifford, 1866 to 1872; Leander A. Plummer, 1867 to 1885; James Robinson, 1872 to 1875; Benjamin T. Cummings, 1877 to 1882; Charles W. Clifford, 1878; Francis Hathaway, 1878; Frederick Swift, 1880; Morgan Rotch,

1882; William A. Robinson, 1882; Oliver Prescott, 1883; Otis N. Pierce, 1883; Charles W. Plummer, 1883; Joseph F. Knowles, 1883; Walter Clifford, 1885; Manly U. Adams, 1885; William D. Howland, 1886.

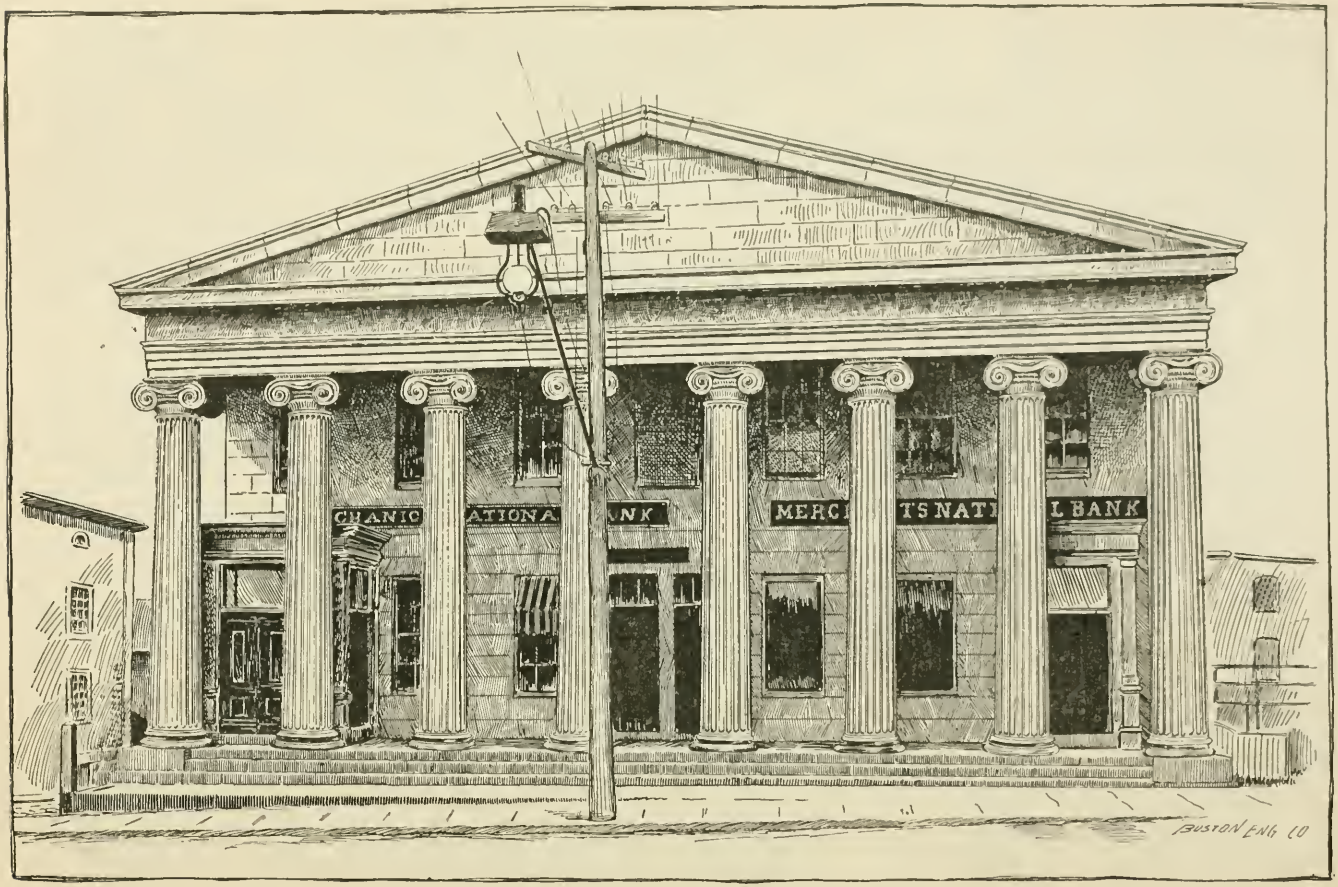
The cashiers have been as follows: Joseph Ricketson, 1816–34, James H. Crocker, 1834–38; Thomas B. White, 1838–73; Benjamin F. Coombs, 1873–76; and James H. Tallman, 1877 to the present time. The teller is Horace Wood.

The present officers of the bank are as follows:

President—Francis Hathaway.
Vice president—William C. N. Swift.
Cashier—James H. Tallman.
Directors—Francis Hathaway, William C. N. Swift, Henry Taber, William J. Rotch, Charles W. Clifford, William A. Robinson, Frederick Swift, Oliver Prescott, Charles W. Plummer, Walter Clifford, Morgan Rotch, Otis N. Pierce, Joseph F. Knowles, William D. Howland, and Manly U. Adams.

In 1883 the imposing bank building of brick and brownstone, on North Water street, now occupied by the bank, was erected, and it is regarded as one of the ornaments of the city.

The Merchants National Bank has elegantly fitted quarters in the stately building on Water street, at the foot of William. It is the offspring of the Merchants Bank, which was organized July 13, 1825, with a capital of $150,000. This was increased while the bank was doing business under the state law in 1828, to $250,000; in 1831 to $400,000; and in 1851 to $600,000. The first board of directors consisted of John Avery Parker, Samuel Borden, Job Eddy, Abraham Barker, Joseph Bourne, William H. Allen, David R. Greene, John Coggeshall, Jr., and Alfred Gibbs. Mr. Parker was the president of the bank until his death, December 23, 1853. Charles R. Tucker succeeded him, holding the office until his death, December 21, 1876, when Jonathan Bourne succeeded him, and is now president. James B. Congdon was the first cashier. He resigned January 1, 1858, and was succeeded by Peleg C. Howland, to whose untiring zeal is due in a great measure the bank's present standing of excellence. On the death of Mr. Howland, October 26, 1885, Henry C. W. Mosher was elected to the position and is now cashier. Gideon B. Wright and Lloyd S. Swain are the tellers. The bank was reorganized as The Merchants National Bank of New Bedford, February 14, 1865,



MERCHANTS AND MECHANICS BANKS BUILDING.

with the following board of directors: Charles R. Tucker, Abraham Barker, David R. Greene, Gideon Allen, Thomas Bradley, Dennis Wood, Jonathan Bourne, William P. Howland, and Andrew Hicks. The capital stock at that time was $600,000, with a surplus of $166,050.58. In 1869 the capital was increased to $1,000,000, at which figure it now stands, with a surplus of $500,000.

The directors of this bank since the beginning, with the years of their term of service, have been as follows: John Avery Parker, 1825 to 1854; William H. Allen, 1825 to 1829; Abraham Barker, 1825 to 1871; John Coggeshall, Jr., 1825 to 1844; Joseph Bourne, 1825 to 1828: Alfred Gibbs, 1825 to 1842; Job Eddy, 1825 to 1853; David R. Greene, 1825 to 1880; Samuel Borden, 1825 to 1849; William C. Nye, 1829 to 1831; Gideon Allen, 1832 to 1878; Nehemiah Leonard, 1832 to 1843; Edward L. Baker, 1843 to 1864; Charles R. Tucker, 1844 to 1876; Dennis Wood, 1850 to 1878; William Penn Howland, 1850 to 1869; Jonathan Bourne, 1854; Andrew Hicks, 1854; Thomas Bradley, 1855 to 1873; George F. Bartlett, 1866; William R. Wing, 1866; George R. Phillips, 1866; Joseph Arthur Beauvais, 1872 to 1875; George F. Kingman, 1876; Stephen G. Driscol, 1876 to 1881; Lewis S. Judd, 1877 to 1886; Samuel C. Hart, 1878; Thomas H. Knowles, 1878; Gilbert Allen, 1879; Abraham H. Howland, Jr., 1879 to 1887; Francis B. Greene, 1880; William N. Church, 1882; George S. Homer, 1887; James Delano, 1888.

The officers, as they now stand, are as follows:

President — Jonathan Bourne.
Cashier — Henry C. W. Mosher.
Directors — Jonathan Bourne, Andrew Hicks, George F. Bartlett, William R. Wing, George F. Kingman, William N. Church, Thomas H. Knowles, Samuel C. Hart, Gilbert Allen, Francis B. Greene, James Delano, and George S. Homer.

The Mechanics National Bank occupies handsome quarters in the same building. This was originally a state bank and was incorporated October 3, 1831, under the name of "The President, Directors, and Company of the Mechanics Bank in New Bedford." In March, 1849, the legislature was petitioned for a renewal of the original charter, which would expire October 1, 1851, by limitation. The bank did not cease business as a state bank until March 31, 1865, although the bank was reorganized as a national bank, June 3, 1864.

The original capital was $200,000, which was increased to $400,000 April 12, 1854, and to $600,000, the present capital of the Mechanics National Bank, in June, 1857. The present surplus is $225,000.

The original board of directors comprised William R. Rodman, Thomas Mandell, George T. Baker, Joseph R. Shiverick, John Perkins, Edmund Gardner, Pardon Tillinghast, Andrew Robeson, and Dudley Davenport. Following are given the names of all who have served the bank as directors, with the years in which their service began and ended: William R. Rodman, 1831 to 1851; Thomas Mandell, 1831 to 1870; George T. Baker, 1831 to 1843; Joseph R. Shiverick, 1831 to 1860; John Perkins, 1831 to 1849; Edmund Gardner, 1831 to 1872; Pardon Tillinghast, 1831 to 1872; Andrew Robeson, 1831 to 1848; Dudley Davenport, 1831 to 1848; James H. Collins, 1843 to 1861; William Cummings, 1848 to 1849; Jonathan Howland, 1848 to 1849; John R. Thornton, 1849; Jireh Swift, Jr., 1849; Edmund Taber, 1849 to 1861; Henry Taber, 1851 to 1852; William Watkins, 1852 to 1880; Loum Snow, 1860 to 1872; William W. Crapo, 1861; Thomas Wilcox, 1861; Sylvanus Thomas, 1866 to 1867; Andrew G. Pierce, 1867; Edward D. Mandell, 1871; Horatio Hathaway, 1872; Henry F. Thomas, 1872 to 1880; Loum Snow, Jr., 1876; E. Williams Hervey, 1883; Edward Kilburn, 1883; Henry C. Denison, 1887.

William R. Rodman was the first president. He held the office for twenty years, resigning in October, 1851. Thomas Mandell succeeded him, being elected president October 11, 1851, and holding the office until his death, February 13, 1870. William W. Crapo was chosen president June 1, 1870, and still retains that position.

Joseph Congdon was the first cashier and he held the position until October 7, 1857, a period of twenty-six years, when he resigned on account of ill health. E. Williams Hervey succeeded Mr. Congdon as cashier, being elected October 7, 1857. He held the position until August 9, 1882, when he also resigned on account of ill health, after having been for twenty-nine years in the service of the bank, and cashier for a period of nearly twenty-five years. James W. Hervey succeeded him and is the present cashier. Lemuel T. Terry is the assistant cashier, and the present officers of the bank are as follows:

President—William W. Crapo.
Vice president—Andrew G. Pierce.
Cashier—James W. Hervey.
Directors—William W. Crapo, Andrew G. Pierce, John R. Thornton, Jireh Swift, Thomas Wilcox, Edward D. Mandell, Horatio Hathaway, E. Williams Hervey, Loum Snow, Jr., Edward Kilburn, and Henry C. Denison.

The Citizens National Bank, 36 North Water street, was incorporated May 17, 1875, with the following board of directors: J. Arthur Beauvais, John P. Knowles, William J. Kilburn, Joseph H. Cornell, Lewis S. Judd, and John F. Tucker. Mr. Beauvais, who was at that time engaged in a successful private banking enterprise, transferred his business to the new bank and was elected president, a position which he still holds. The bank was organized with a capital of $250,000, which was subsequently increased to $500,000, and this latter amount is now supplemented by a surplus of $52,500. Thomas B. Fuller was the first cashier, and on his death in 1886, Edward S. Brown was elected to the position. George M. Kingman is teller. Its directors, with the years of their service, have been as follows: J. Arthur Beauvais, 1875; John P. Knowles, 1875; William J. Kilburn, 1875; Charles Tucker, 1875; Joseph H. Cornell, 1875 to 1884; Lewis S. Judd, 1875 to 1876; John F. Tucker, 1875 to 1886; Henry T. Wood, 1876 to 1883; George Marston, 1880 to 1883; Fred S. Potter, 1881; Oliver P. Brightman, 1884; Wendell H. Cobb, 1884 to 1888; Thomas B. Fuller, 1885 to 1886; David B. Kempton, 1886; Cyrenius W. Haskins, 1887.

The present officers are as follows:

President—J. Arthur Beauvais.
Cashier—Edward S. Brown.
Directors—J. Arthur Beauvais, John P. Knowles, William J. Kilburn, Charles Tucker, Fred S. Potter, Oliver P. Brightman, David B. Kempton, Cyrenius W. Haskins, Hosea M. Knowlton, and Benjamin Wilcox.

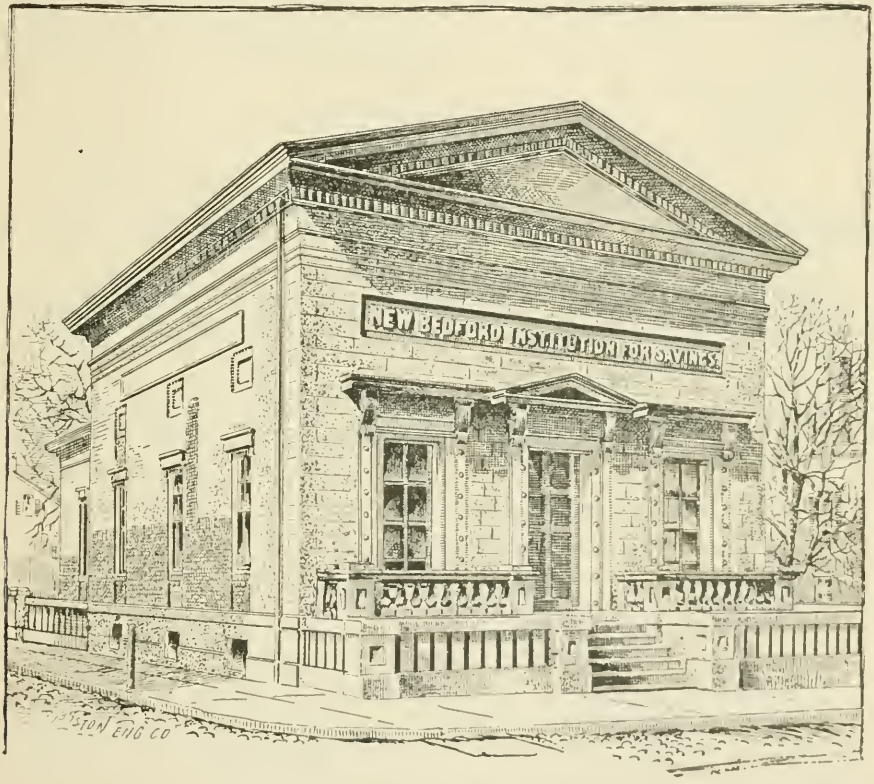
Recently the national banks organized an association known as the New Bedford Clearing House, with James W. Hervey as president and Edward S. Brown, secretary. All clearings are made at the National Bank of Commerce, under the management of James H. Tallman.

The national banks have each several hundred small safes within their vaults for the gratuitous use of their depositors.

RESIDENCE OF J. A. BEAUVAIS.

The New Bedford Institution for Savings enjoys the distinction of having the largest aggregate of deposits of any savings bank in New England, outside of Boston, with one exception. It occupies the neat and convenient building at the northeast corner of William and Second streets.

The institution was incorporated in 1825, by the following gentlemen: William Rotch, Jr., Gilbert Russell, Cornelius Grinnell,



NEW BEDFORD INSTITUTION FOR SAVINGS.

Andrew Robeson, Haydon Coggeshall, Benjamin Rodman, John Avery Parker, Eli Haskell, Richard Williams, George Howland, Joseph Bourne, Abraham Shearman, Jr., William W. Swain, Thomas Rotch, Thomas A. Greene, Charles W. Morgan, Samuel Rodman, Jr., John B. Smith, William C. Nye, Thomas S. Swain, William H. Allen, Lemuel Williams, Jr., John Howland, Jr., Charles H. Warren, William P. Grinnell, Joseph Ricketson, Charles Grinnell, Nathan

Bates, John Coggeshall, Jr., James Howland, 2d, and Gideon Howland. Every one of these men is now dead.

The first officers were as follows:

President — William Rotch, Jr.
Treasurer — Abraham Shearman, Jr.
Secretary — John B. Smith.
Trustees — William Rotch, Jr., Gilbert Russell, Cornelius Grinnell, Haydon Coggeshall, John A. Parker, Eli Haskell, Joseph Bourne, Abraham Shearman, Jr., Thomas Rotch, Thomas A. Green, Charles W. Morgan, Samuel Rodman, Jr., William C. Nye, Thomas S. Swain, John Howland, Jr., William P. Grinnell, Nathaniel Bates, John Coggeshall, Jr., and Gideon Howland.

Following is a list of officers from 1825 until the present time:

Presidents — William Rotch, Jr., Abraham Barker, Thomas Mandell, Pardon Tillinghast, William C. Taber, and William Watkins.

Secretaries — John B. Smith, Abraham Shearman, Jr., Thomas A. Green, Joseph Ricketson, George Howland, Jr., James B. Congdon, Charles R. Tucker, William C. Taber, Edmund Taber, Henry T. Wood, and William G. Wood.

Treasurers — Abraham Shearman, Jr., William C. Taber, George W. Baker, William C. Taber (treasurer, *pro tem.*), Reuben Nye, William C. Coffin, and Charles H. Peirce.

The present officers are as follows:

President — William Watkins.
Vice presidents — William J. Rotch, Edward D. Mandell.
Treasurer — Charles H. Peirce.
Clerk — William G. Wood.
Auditors — Benjamin Irish, Robert B. Gifford.
Auditor of depositors' accounts — Benjamin Irish.
Trustees — Benjamin T. Ricketson, John R. Thornton, George A. Bourne, William J Rotch, William Watkins, Edward D. Mandell, Gilbert Allen, Andrew G. Pierce, Charles H. Gifford, Asa C. Peirce, William G. Wood, William C. Taber, Jr., Joshua C. Hitch, Abram T. Eddy, Horatio Hathaway, Edward S. Taber, Thomas M. Hart, Charles W. Clifford, Isaac W. Benjamin, Francis Hathaway, William A. Robinson, Charles W. Plummer, Isaac B. Tompkins, Jr., George D. Watkins, William D. Howland, Jonathan Handy, Morgan Rotch, Lemuel T. Terry, Edmund Wood, Charles P. Rugg, Walter Clifford, Gideon Allen, Jr., Edward T. Pierce.

The first deposit, fifty dollars, was made by Rhoda E. Wood, of Fairhaven, August 15, 1825. The amount of deposits, January 5,

1889, was $10,683,053.13; guaranty fund, $360,000; undivided earnings, $119,390.51. The number of accounts was 20,626.

The New Bedford Five Cents Savings Bank was incorporated May 5, 1855, and its banking rooms are now at No. 71 Purchase street, at the corner of Mechanics lane. The original incorporators were: Thomas B. White, William H. Taylor, Lemuel Kollock, Ivory H. Bartlett, Alexander H. Seabury, Charles Almy, Henry H. Crapo, George Howland, Jr., and Asa R. Nye. Of these, George Howland, Jr., is the only survivor.

The first officers were as follows:

President—George Howland, Jr.
Vice presidents—Henry H. Crapo, Alexander H. Seabury.
Treasurer—John P. Barker.
Secretary—Charles Almy.
Trustees—George Howland, Jr., Henry H. Crapo, Alexander H. Seabury, John P. Barker, Charles Almy, Thomas B. White, Ivory H. Bartlett, Nehemiah Leonard, Andrew Robeson, Edward W. Howland, Moses Howe, Joshua Richmond, George F. Baker, Dennis Wood, Charles Hitch, James Durfee, Lemuel Kollock, Asa R. Nye, Edward D. Mandell, William P. Howland, Alden G. Ellis, J. Arthur Beauvais, Moses G. Thomas, Samuel Ivers, Simpson Hart, Abner J. Phipps, William H. Taylor, James Taylor, William R. Rodman, Horatio Leonard, and John Wood.

The officers of the organization to the present time have been:

President—George Howland, Jr.
Secretaries—Charles Almy, James Taylor.
Vice presidents—Alexander H. Seabury, Dennis Wood, Frederick S. Allen, Lemuel Kollock, and Walter Clifford.
Treasurers—John P. Barker, from May, 1855, to October, 1855; James C. Ricketson, from October, 1855, to April 6, 1861; Barton Ricketson, Jr., from April, 1861, until the present time.

The present officers are:

President—George Howland, Jr.
Vice presidents—Frederick S. Allen, Walter Clifford.
Treasurer—Barton Ricketson, Jr.
Clerk—James Taylor.
Trustees—George Howland, Jr., Frederick S. Allen, Edward B. Whiting, William Baylies, Samuel Ivers, Thomas Wilcox, William G. Taber, John P. Knowles, 2d, E. Williams Hervey, Warren Ladd, James Taylor, Henry J. Taylor, William J. Kilburn, Edwin Dews, Frederick S. Potter, William R. Wing, James P. Macomber,

J. Augustus Brownell, Loum Snow, Frederick S. Gifford, Thomas H. Knowles, Henry C. Denison, Samuel H. Cook, Samuel C. Hart, Otis N. Pierce, C. B. H. Fessenden, George N. Alden, Benjamin T. Cummings, Oliver F. Brown, Edward H. Allen, George F. Kingman, Parkman M. Lund, John F. Swift, Horace Wood, Frederick H. Hooper, Walter Clifford, George H. H. Allen, J. Arthur Beauvais, Sidney W. Knowles, Gilbert D. Kingman.

The first deposit, $25, was made by Horace W. Barker, May 26, 1855. The deposits in December, 1888, had reached $4,156,669.86; earnings, $39,218.92; reserve fund, $100,320.13; surplus fund, $38,765.99. The number of accounts open was 15,835.

Money goes on interest the second Wednesday of January, April, July, and October. Dividends are payable on the second Wednesday of April and October.

The New Bedford Safe Deposit and Trust Company was incorporated by the legislature of 1887, with a capital stock of $100,000, and authority to increase to $500,000. Business was commenced in June, 1888. In November of the same year the stockholders voted to increase the capital stock to $200,000. At that date the number of depositors was one hundred eighty-two and the deposits amounted to $150,000. The banking rooms are on the northeast corner of William street and Acushnet avenue and the quarters are sumptuous and elegant in every respect. It provides means for the safe deposit of any valuable article, it may be appointed trustee under any will or instrument creating a trust for the care and management of property, under the same circumstances, in the same manner, and subject to the same control by the court having jurisdiction of the same, as in the case of a legally qualified person.

The company acts as agent for any corporation, city, or town in issuing certificates of stock, bonds, or other evidences of indebtedness, and for the payment of dividends and interest thereon. It also acts as agent in collecting and disbursing the income on any property which may be placed in its charge.

In addition to the various departments of activity which have been enumerated, the company also does a general banking business, precisely like that of a national bank, except that it issues no bank notes. Deposits of money are received payable by check on presentation, and interest is allowed on daily balances and credited monthly.

Special rates of interest are allowed on time deposits. Notes are discounted and collections made the same as at any bank.

The distinctive feature of this institution is its fine vault, which was built by the Hall Safe and Lock Company of Cincinnati, Ohio. It contains four hundred eighty-nine small safes of various sizes, ranging from two and one-half by four and three-quarters inches to twenty by twenty-four inches. They are uniformly twenty-three inches deep. There are also storage rooms for pictures, silver ware, and jewelry.

The directors of the institution are Charles E. Hendrickson, William D. Howland, Abbott P. Smith, Benjamin F. Brownell, Savory C. Hathaway, Lot B. Bates, Stephen A. Brownell, Standish Bourne, Frederic Taber, John W. Macomber, Lemuel LeBaron Holmes, and George C. Hatch.

The officers are as follows:

President—Charles E. Hendrickson.
Vice presidents—William D. Howland, Abbott P. Smith.
Cashier—Edmund W. Bourne.
Secretary—Edward T. Tucker.
Executive committee—William D. Howland, John W. Macomber, Lemuel LeBaron Holmes, Standish Bourne, Abbott P. Smith.

The New Bedford Coöperative Bank, or loan association, was organized July 8, 1881, chartered three days later, and commenced business August 19. On the first night $374 was paid in. The membership has increased from forty or fifty to six hundred eight and the total amount paid in has been $190,479.45. The authorized capital is $1,000,000. Over twelve hundred books have been issued and five hundred three loans have been placed in sums ranging from twenty dollars to five thousand dollars. The bank has paid an average profit of 6½ per cent. There are now one hundred forty-three real estate loans, aggregating in amount $167,148.90, and the value of the first series of shares is now $111.02. The by-laws have been amended from time to time so that shares in the first five series may be withdrawn without loss of profits. The present officers are as follows:

President—Isaac W. Benjamin.
Vice president—George R. Stetson.
Secretary—Charles R. Price.
Treasurer—Gideon B. Wright.

Directors—Benjamin Anthony, Oliver P. Brightman, Jasper W. Braley, Jethro C. Brock, John L. Gibbs, Henry Howard, Samuel Jones, Samuel S. Paine, Rufus A. Soule, John A. Bates, Benjamin F. Brownell, Charles S. Paisler, David W. Holmes, Andrew R. Palmer, Stephen A. Brownell.

Auditors—Isaac B. Tompkins, Jr., Frederic Taber, Daniel W. Cory.

Attorney—Hosea M. Knowlton.

METAL WORKERS.

The metal working industries of the city are varied and interesting, while some of them are exceptional in their character.

The New Bedford Copper Company was one of the first, as it is one of our representative, branches of industrial enterprise. The company was incorporated in 1860 with a paid up capital of $250,000 and it manufactures copper and yellow metal sheathing, copper rollers for calico printers, yellow metal bolts, and cut nails, braziers', dimension, and bolt copper, etc. The works are situated on the east side of North Front street and the main rolling mill is two hundred fifty by one hundred feet. There is also a building one hundred seventy-five by sixty feet for mixing metals and refining copper, and office, store rooms, carpenter and blacksmith shops, and a brick yard, covering an area of three hundred by twenty-five feet. The frontage of the property is three hundred feet and it extends easterly to the river, a distance of about three hundred fifty feet. It is proposed to fill in to the channel, a distance of about one hundred fifty feet farther. The mill is equipped with an engine of three hundred horse power, one boiler twenty-six feet long and seven feet in diameter, and eight smaller boilers placed over the reheating furnaces.

Lake Superior copper is used exclusively in the manufacture of sheet copper and print rollers, and only the best materials are employed in the manufacture of all goods. This copper is regarded as the best produced in the world, and it reaches the factory in cakes weighing about two hundred pounds each. Yellow metal is a mixture of sixty parts copper and forty parts zinc spelter and in its manufacture five melting and nine refining furnaces are used. There are huge rollers of tremendous strength, through which the metal is rolled, and the print rollers are turned in lathes, built expressly for the

NEW BEDFORD COPPER WORKS.

purpose. There are only two manufactories in the country where print rollers are manufactured and the works in this city take the lead in this industry. The company makes a specialty of Muntz yellow metal bolts for piston rods for marine engines, and has lately gone into the manufacture of solder irons, with most satisfactory results.

The number of hands employed is about one hundred, and the officers of the company are as follows:

President—Gilbert Allen.
Treasurer and general manager—William H. Mathews.
Directors—Gilbert Allen, William J. Rotch, Edward D. Mandell, Charles W. Clifford, George R. Phillips, Humphrey W. Seabury, and Frederick S. Allen.

To the Morse Twist Drill & Machine Company belongs the unusual distinction of having founded an entirely new industry. It was in 1861 that Samuel A. Morse conceived the idea of the manufacture of his famous drill, and he started an experimental shop at East Bridgewater. The old fashioned drill pierced a piece of iron about as one would bore a bit of pine with the point of a pen knife. Twist drills for boring metals had been occasionally made by filing or milling spiral channels around a piece of steel wire, or more commonly by twisting a flattened piece of steel, but the cutting lip of such drills was generally on a concave line and the outer point was quite likely to break. Mr. Morse employed a milling tool which produced a straight lip, which cut its way through metal like an auger, doing better work, with less expenditure of power. The liability to injury was also less.

Mr. Morse had so far perfected his idea in 1863 as to secure a patent in that year. As he was unable to secure sufficient capital in East Bridgewater to meet the orders for his drills, in June of 1864, having interested capital in this city, he moved here and a shop thirty by sixty feet in area, two stories high, was constructed for his occupancy.

The company of stockholders organized with Nathan Chase as president. Mr. Chase had been a successful merchant, and was then considered, as now, a shrewd business man. He worked devotedly in the interest of the company, and without his correct management at the inception, it is doubtful whether the undertaking would have been so complete a success. The board of directors elected twenty-four years ago still supervises the enterprise. The original members were

Thomas M. Stetson, Gilbert Allen, Frederick S. Allen, Nathan Chase, and Andrew G. Pierce. Mr. Chase continued as president and manager for three years, and Mr. Pierce occupied the former position for a short period. In 1868 Mr. Chase retired and Edward S. Taber was chosen president and treasurer and added to the board of directors. The original capital was $30,000. This was subsequently increased to $60,000, again to $90,000, and in 1871 to $150,000. In the latter year the company absorbed the Standard Tool Company, of Newark, N. J., after a year or two of patent litigation.

The large success of the corporation commenced about the years 1872 and 1873. The artisans of the country had been educated to the use of their tools, and a large foreign as well as home trade had been built up, regular agencies being maintained in London and Paris. This was due to the superiority of the manufacture. All of the tools made here were manufactured upon a uniform and absolutely accurate system of gauges. Every variety of drill, even when as fine as a sewing machine needle, was, and is, made exactly alike, differing not the breadth of the finest hair in any of its dimensions.

New buildings were added. About the year 1876, the capital was made $600,000. The original wooden shop was removed and a handsome and substantial brick structure was erected in its place. The buildings of the corporation now occupy the larger part of the square bounded by Bedford, Fourth, Wing, and Fifth streets. The main factory on Fourth street is nearly four hundred feet long and three stories high. This is backed by a blacksmith shop, hardening and tempering, annealing, stock, and store rooms. The area of the entire floor space is over sixty-eight thousand square feet.

The corporation employs about two hundred fifty operatives and the annual product aggregates about $400,000 in value. About two hundred fifty tons of steel stock are annually consumed.

The tools of the company are used throughout the world and are now considered indispensable in all modern metal working shops. The original catalogue, a card about two and one-half by three inches in size, modestly mentioned the entire product, but it has now grown to a book of thirty pages.

To the manufacture of drills has been added the making of chucks, which hold such tools as a drill, and connect them with the spindle of a lathe; reamers, which are used for enlarging drill holes and making a "true" bore, that is, making its calibre precisely the

WORKS OF THE MORSE TWIST DRILL AND MACHINE COMPANY.

same in every part; taps, which are tools used in cutting the thread of nuts; milling cutters, dies, drill grinding machinery, and, in fact, all the tools required in machine making establishments.

The superintendent of the factory is George R. Stetson. The operatives employed by the company are largely men who were born in this city and educated in the public schools. They are well paid and constitute an exceptionally intelligent and effective body of workmen. The corporation is remarkable for keeping its men in its employ a long time. There are now employed in the factory men who were hired at the start, while a large proportion of the workmen have had terms of service exceeding ten years.

Although the works of the American Tack Company are located in Fairhaven, yet it is essentially a New Bedford industry, being owned almost entirely, and controlled, by residents of this city. The company was organized April 3, 1867, with J. A. Beauvais, of this city, as treasurer, and Charles E. Brigham, who was president, Lewis Rice, and L. L. Tower, of Boston, Oliver P. Brightman, of New Bedford, and George F. Tripp, of Fairhaven, as directors. The company succeeded to the property and trade of the American Nail Machine Company, a corporation organized in Boston three years previously. The corporation had bought the patent rights of an automatic feeding nail machine, intending to build machines for sale, and also to operate them in making cut nails. But the west was at that time just entering largely into the manufacture of cut nails, and as it could obtain coal and iron at cheaper prices than they could be procured in the east, it was evident that the eastern manufacturers could not successfully compete in this industry.

It was therefore decided to engage in the manufacture of tacks and small nails, which would not require the outlay for a rolling mill and for which the plate could be obtained as cheaply in the east as in the west.

The company bought the Rodman property at Fairhaven, and its machinery was moved from Boston in 1865, under the supervision of Cyrus D. Hunt, the present superintendent of the works. In 1866 the works went into operation, and in May of the following year, the American Nail Machine Company sold its property to the new corporation, the American Tack Company. The latter company also bought the business, trade, and good will of Jude Field, of New York, who had succeeded Arby Field, who started in business in New York in 1824.

This purchase made the American Tack Company the successor of one of the oldest tack manufacturers in this country, and secured to it a good export trade, which had been built up by the Fields. In 1870 the company bought of M. G. Williams, of Raynham, the inventor and original manufacturer of chisel-pointed boat nails, his machinery and trade, and in 1875 the company purchased the machinery and business of M. M. Rhodes & Sons, of Taunton, manufacturers of lining and saddle nails and tufting buttons. Finally, in 1880, the machinery and business of the Star Tack Company, of New York, was purchased and removed to Fairhaven.

The company employs one hundred twenty hands, operating one hundred forty tack and nail machines, and consumes from twelve hundred to fifteen hundred tons of metal per year, making more than four thousand kinds and varieties of tacks and nails, and producing goods each year to the value of two hundred thousand dollars.

Within two years, soft steel has supplanted iron in the manufacture of tacks and nails. This metal, being stiffer and stouter than iron, is destined to supersede it entirely. To work it, however, heavier and stouter machinery is required, and the company has renewed its plant in this respect to enable it to profit by the change and supply its customers with the best of goods.

The capital stock of the company was originally $50,000, but has been increased to $125,000. The board of directors at present consists of J. Arthur Beauvais, Oliver P. Brightman, Loum Snow, Jr., and E. W. Hervey, of New Bedford, and Cyrus D. Hunt, of Fairhaven. J. Arthur Beauvais is the president.

The business of Bowker & Tripp, machinists and manufacturers of steam engines, shafting, and their appurtenances, was established in the brick block at the corner of North and North Water streets, in 1874, the firm at that time being composed of Edward E. Bowker and Robert R. Sherman. In 1878, Mr. Sherman retired, and Frank S. Tripp took his place. They are the patentees and sole manufacturers of the Matchless steam and fire regulator, and Matchless double action damper, also of the single diagonal and the oval diagonal dampers for all kinds of flues and chimneys. Over one thousand are now in use. This firm also manufactures Mitchell's adjustable socket wrench, speed lathes, and machine screws for special work, and does repairing of all kinds. They are manufacturers' agents for restarting injectors, engine and speed indicators,

steam and pressure gauges, pop safety valves, chime whistles, asbestos valves, plug cocks, return traps, and a full line of the most approved steam appliances. The works are supplied throughout with the best machinery, tools, and appliances, propelled by a thirty horse power steam engine, and a large force of skilled workmen is constantly employed. The members of the firm, Messrs. Edward E. Bowker and Frank S. Tripp, are both practical machinists of large experience.

The Acushnet Iron Company, Augustus Swift, agent, established the foundry, pattern and machine shop in the rear of Bowker & Tripp's building, about eight years ago. Twelve men are employed.

The New Bedford Boiler & Machine Company was established by H. A. Holcomb and Joseph S. Lewis in 1874. The buildings at 24 Front street cover an area of a quarter of an acre and from twenty to fifty men are employed. The works are supplied with a thirty-five horse power steam engine and the firm manufactures boilers of every size and description, including stationary, portable, marine, and locomotive boilers, also machinery of all kinds. The firm has made the boilers used in several of our largest mills and makes a specialty of a patented steam heating apparatus, which is in successful operation in many of our public buildings and finest private residences.

Babbitt & Wood, 32 Commercial street, are the successors to the business of the Union Boiler Company. They manufacture boilers of all kinds and a patent steam heater, and are also engaged in steam fitting and the mill supply business. The firm employs from ten to thirty men, and first engaged in business in 1880, at 27 Front street. Their business proved so successful that the present building occupied by them was erected.

The New Bedford Iron Foundry, located at the corner of Water and Coffin streets, was founded by F. & I. C. Taber & Co., who were then located at the corner of Fourth and Bedford streets. The firm of Taber & Grinnell succeeded to the business in 1847 and in 1859 Joseph G. Grinnell became the sole proprietor. Edmund Grinnell, who now conducts the business, assumed control in 1873. The capacity of the works is twenty tons of castings per day, and ninety men are employed. The works make a specialty of light and heavy machinery and building castings. Among other work the past year,

EDMUND GRINNELL'S IRON FOUNDRY.

two columns weighing ten tons each have been cast for the Hemmenway building, School street, Boston, and building casts for the London Manufacturing Company, Ludlow, Mass., the Pacific mills, Lawrence, Hargrave, Sagamore, Border City, and King Philip mills, Fall River, Suffolk county court house, Boston, Walter Hastings Hall and Mutual Fire Insurance Company's buildings, Davoll Rubber Company, and Billings Brothers' bleachery, Providence, and many other buildings.

The Strange Forged Drill Company has been organized for the purpose of manufacturing twist drills under the patents of John F. Strange, who has already manufactured them to some extent. The officers of the company are as follows:

President—Edwin Dews.
Clerk and treasurer—Henry M. Knowles.
Directors—Thomas M. Hart, Moses C. Swift, William M. Bates, Joseph C. Knowles, John P. Knowles, Jr., Edwin Dews, Henry M. Knowles.

The firm of Luscomb & Corey, comprising Frederick W. Luscomb and David A. Corey, is engaged in the manufacture of special machinery at No. 13 Rodman street and now employs seven hands. Business was commenced in October, 1885. The firm is interested, with George D. Brown and James F. Hammond, in the Mechanics Manufacturing Company, which manufactures novelties, prominent among which is the "Electric" patent pruner, and a shawl strap and bundle carrier.

Gifford's brass foundry, on Front street, was founded in 1860 and is now managed by Capt. James E. Stanton. A two-story building, fifty by sixty feet in area, is occupied, equipped with modern mechanical appliances and machinery operated by steam. The concern manufactures to order all kinds of work in brass and copper, and is also engaged in the plumbing business. Ten men are employed.

Gardner & Southwick (Reuben M. Gardner and Arnold W. Southwick) succeeded to the business of Andrew Craigie in 1872. They are engaged in brass moulding and founding and carrying on the business of coppersmiths at No. 58 Middle street. Five men are employed.

The New Bedford Machine Shop is located in the foundry building at the corner of Coffin and South Water streets. Ten men are employed and a general jobbing business is done. Jonathan Bourne has been the owner of the shop since 1864.

SHOE MANUFACTURERS.

Hathaway, Soule & Harrington, whose large factory is on North Second street, at the corner of North street, are the largest manufacturers of men's, boys', and youths' fine shoes in New England selling direct to the retail trade. They manufacture hand sewed, Goodyear welt, and machine sewed goods, making a specialty of Goodyear welt, and claim in this line to lead all competitors. They have branch factories at Middleboro and Campello, where they manufacture medium grades of shoes. Their business has gradually increased and in 1888 their sales exceeded eight hundred thousand dollars. Like many of our most important industries the business was started in a very small way. Savory C. Hathaway began manufacturing shoes in July, 1865, on Hillman street, with two employes. Three months later Rufus A. Soule became a partner and the firm was known as Hathaway & Soule. In December, 1865, they moved to the brick building on Pleasant street, corner of Mechanics lane. At first the firm occupied one floor only, but soon leased the entire building and finally a wooden addition at the north was built and occupied. Then the industry outgrew this building and in 1874 a four story brick building, thirty-two by one hundred feet in area, was erected by the firm at the corner of North Second and North streets. In 1876, Herbert A. Harrington was admitted into partnership and the firm name became Hathaway, Soule & Harrington. They have from time to time added to their factory until their present floor surface exceeds twenty-five thousand square feet. The firm now employs in the New Bedford factory two hundred eighty hands and it is one of the best equipped factories in the country. Their product is one hundred seventy-five thousand pairs annually. The capacity of the Middleboro and Campello factories is two hundred fifty thousand pairs.

The firm employs twelve travelling salesmen and has customers in nearly every city and town in the United States and Canada. It has salesrooms and offices at No. 280 Devonshire street, Boston, and at No. 128 Duane street, New York city.

The firm is very proud of the class of workmen it employs and many men have gone out from this factory to accept positions of high responsibility in shoe manufactories elsewhere.

The firm of Tinkham, Reed & Gifford, boot and shoe manufacturers, occupies the three story brick block numbered 19 and 21 North Second street. Fifty hands are employed in this factory. The present partnership of Elisha B. Tinkham, Gustavus L. Reed, and Jesse Gifford was formed fourteen years ago. The members of the firm all followed the shoemaker's trade in New Bedford and their practical experience thus gained, coupled with their businesslike and progressive management of their factory, have given their manufactures an enviable name. Ladies', misses', and children's shoes are made. The firm turns out the McKay sewed shoe and has lately introduced the Goodyear, being one of the first factories in New England to introduce the Goodyear welt machine for ladies' shoes. The proprietors are thoroughly up to the times. Their goods bear the best of reputations for wear and fit and are always in demand. Consequently the hands employed are busy nearly all the year round and the factory is never shut down but for a very short period. The firm caters altogether to the retail trade, dealing directly with its customers at the office and salesroom, 107 Duane street, New York city. It ships seventy-five thousand dollars' worth of goods annually.

C. F. Watkins manufactures men's shoes at 92 Pleasant street, where he commenced business in 1878. He employs from eight to twelve men and manufactures about sixty pairs a week.

Schuler Bros. manufacture men's shoes for their own trade and the general market, at 76 Purchase street, and have engaged in the business for six years. They employ eleven men and manufacture between seventy-five and one hundred fifty pairs a week.

WOOD WORKERS.

The business of Greene & Wood dates back to the town's earlier history, having been originated by Samuel Leonard in the year 1835. He started in the lumber business at that time at the bend of Clark's cove, near the present bath houses of the street railway company, and for many years all the timber was brought up into the cove and rafted ashore. After a few years he built the present Leonard's wharf, on the water front, and the business was removed there, and there it has since remained. At about this time, Samuel Leonard's son,

Henry T. Leonard, took the business, forming a partnership with Augustus A. Greene, a prominent young carpenter who had come here from Providence to build the houses now occupied by Mrs. Abraham H. Howland and Mrs. Joseph C. Delano, and the homestead of the late Joseph Grinnell. Under the firm style of Leonard & Greene the business was continued until 1848, when Henry T. Wood bought out Henry T. Leonard, and the style of the firm became Greene & Wood. Under this name it has remained for over forty years, and in one location has carried on the business with success. Mr. Greene retired in 1872 and Henry T. Wood died in 1883. The present firm consists of William G. Wood, who entered it in 1861, and George R. Wood and Edmund Wood, who were admitted soon after the death of their father, in 1883. The firm now owns and occupies seven and one-half acres of land on the water front, including a wharf, and the entire area is utilized in their business. They intend to have on hand constantly a complete assortment of building lumber, and this necessitates the carrying of a very large stock and sufficient room to sort it and pile it conveniently for customers. This concern is the only one in the city dealing in southern pitch pine timber, plank, and boards. This the firm lands on its wharf direct from the south in vessels. Several large storage buildings contain the finished lumber and hard woods.

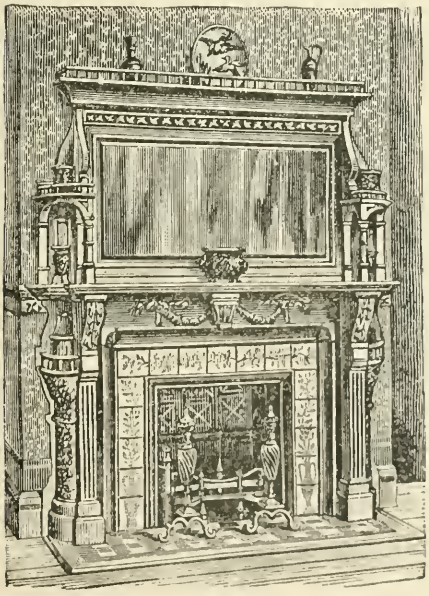
With a progressive spirit, the firm has extended its business to meet the changing character of the trade. Its planing and wood working mill has been tripled in size during the last three years by the introduction of new machinery to meet the growth of the business. This mill was burned a few months ago and almost wholly destroyed, but a greater has arisen from its ashes, and, with the newest machinery and best appliances for fine and accurate work, is now nearly completed. It occupies an area of one hundred twenty by one hundred thirty-eight feet, two stories high, and is admirably adapted for handling lumber rapidly and economically. The dry kiln is a separate building forty by eighty feet, two stories high. Here the Sturtevant hot blast drying process is employed, with a separate engine. Both these new buildings are well protected against another fire by Grinnell automatic sprinklers and other appliances used by our cotton mills. In this mill all kinds of planing, sawing, and turning are done, some very heavy machines being employed. In addition to the manufacture of mouldings for house finish, a large

business is done in the highest grade of hard wood picture frame work. The firm employs about forty-five men.

One of the innovations is a separate portable rig for dressing the heavy hard pine beams and plank used in constructing cotton mills, and for two successive years the firm has had this in operation in other cities. It is the custom to set it up close to the rising walls of the new cotton mill and build a temporary building over it.

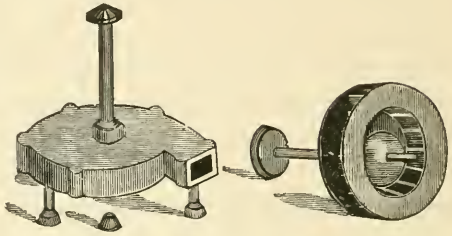
Last year the firm decided to engage in a wholly new industry. It bought out the New Bedford Spool and Bobbin Company and removed the plant to its own mill. This became the nucleus of an enterprise which will probably be an extensive one. The original plant has been already quadrupled in its scope and capacity. And, although seriously retarded by the fire, it is now well under way filling orders, not only for New Bedford but for other cities. The firm is now fitted to manufacture all kinds of spools and bobbins, etc., used in cotton and woolen mills, cordage works, and similar factories.

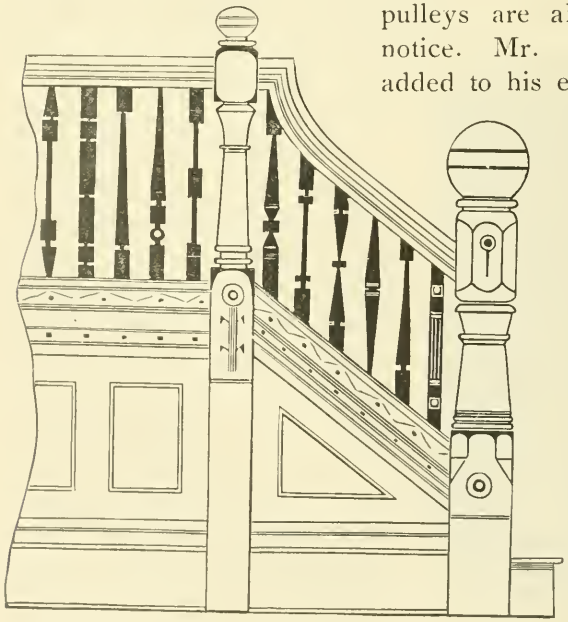
The two upper stories of the large three story stone building, corner of Coffin and South Water streets, are occupied by Charles F. Borden, pattern and model maker, general wood worker, and manufacturer of water wheels. The business was established as early as 1863, by Nathan S. Ellis and Matthias Hathaway, in a room thirty feet square, in the building now occupied by Mr. Borden. The firm manufactured water wheels exclusively. In 1870 Calvin Bonney took the place of Mr. Hathaway in the firm, and, on the death of Mr. Bonney, about four years afterwards, Nelson Collins became associated with Mr. Ellis. Next, E. R. Bowie bought Mr. Ellis' interest and in turn sold out to Mr. Borden, and in 1880 the firm of Collins & Borden was organized. In 1884 Mr. Borden became sole proprietor. Two floors, one hun-



dred by fifty feet in area, and an ell, thirty by thirty feet in area, are occupied, and fourteen men are employed.

The most skillful mechanics are hired and samples of the wood finishing turned out by the firm may be seen in the upper drug store of C. H. Church, in the rooms of the Safe Deposit and Trust Company, and in the reading room of the Free Public Library. Wooden mantels in hard and soft wood are manufactured to order, and carving, planing, jig sawing, and turning are also done. A specialty is made of the manufacture of Tremont turbine water wheels, which are simple in construction and are built upon true hydraulic principles, utilizing all the water, thus rendering them particularly desirable for saw mills, box factories, grist mills, or any situation where the stream is small. Gearing, shafting, and pulleys are also furnished at short notice. Mr. Borden has recently added to his enterprise stair building in all its branches. Possibly most people do not know that stair building has of late years become a distinct art, enlisting the brains and hands of the most skilled designers and workmen. Some recent stair cases are marvels of beauty and ingenuity, forming notable features of the buildings in which they are placed. Mr. Borden builds them in every pattern, of many varieties of wood, and at every possible grade of cost, from the designs of others or from designs of his own. He also manufactures and keeps in stock fancy and





plain newels, square and turned, and balusters and rails. Or, he will make them to order of special patterns. Furniture is also made to order, and cabinets, brackets, easels, and picture frames are manufactured and kept in stock to some extent. Mantels, of which Mr. Borden makes a specialty, and of which he has designed several handsome patterns, are kept in stock.

Frederick A. Sowle, who is now the largest manufacturer of house finishings in this section, commenced business in a small way in 1873, at the southwest corner of William and Bethel streets. At this time he made refrigerators and sold doors and windows. Soon afterwards he moved to more ample quarters on Middle street, where he commenced the manufacture of window frames and house finishings, having the machine work done at the different mills. After a year, however, his business had increased to such an extent that new quarters were again necessary, and he bought the old barn on the Gammons property on Elm street, raised it up and fitted a factory with steam power and the most improved machinery. Two years later, to keep pace with a thriving and still increasing business, he built a large addition, carrying the factory out to the street. At this time about twenty men were employed. In 1884 the mill was entirely destroyed by fire. As Mr. Sowle watched the flames, he remarked, "Well, the old man isn't dead yet," and he verified the statement made on that occasion. A four story brick structure, fifty by one hundred feet in area, and supplied with ample steam power, has replaced the wooden mill, and thirty men are now employed. Mr. Sowle now manufactures and deals in doors, blinds, sashes, window and door frames, mouldings, brackets, stair rails, newel posts, and balusters, and gives especial attention to getting out inside and outside house finish. Turning and scroll sawing is done and western lumber and hard woods are sold. Mr. Sowle is the largest dealer in window and plate glass in this part of the state and he recently furnished the plate glass for the Wing building, the largest plates in the city, which were especially imported for Mr. Sowle. Mr. Sowle ships goods as far as Florida, Virginia, and New York, and his market comprises this city, the Vineyard, Cape, and surrounding towns. For three years, Mr. Sowle's two sons were engaged with him and he then conducted the hardware and lumber business in addition to his factory. The former business he has sold to Pierce & Sowle, the latter Frederick L. Sowle, being

Mr. Sowle's eldest son, and Nathaniel P. Sowle now conducts the lumber business on City wharf.

William H. Washburn manufactures window and door frames, cutters, rakes, mouldings, house trimming and finishing, balusters, brackets, newels, and shutters, and gives particular attention to planing, turning, scroll and circular sawing, pattern making, and all kinds of jobbing. He also deals extensively in pine and hard wood lumber. The business was established in 1875 by Messrs. Perry & Washburn, and the present proprietor assumed the sole control in January, 1883. The factory is at Nos. 213, 215, and 217 North Water street, is two stories high and forty by one hundred fifty feet in area. It is equipped with special wood working machinery and operated by a seventy-five horse power engine. Twenty-one men are regularly employed.

William A. Tillinghast succeeded the firm of Tillinghast & Terry in the general lumber and planing business, about a year ago. The mill is located at No. 172 North Water street and there is a wharf connected with the property. In addition to the lumber yard here, Mr. Tillinghast also maintains a yard on Fish island.

David J. Russell carries on the business of cabinet making at No. 11 Rodman street. His best work is remarkable for fine workmanship and for the beauty of the wood carving.

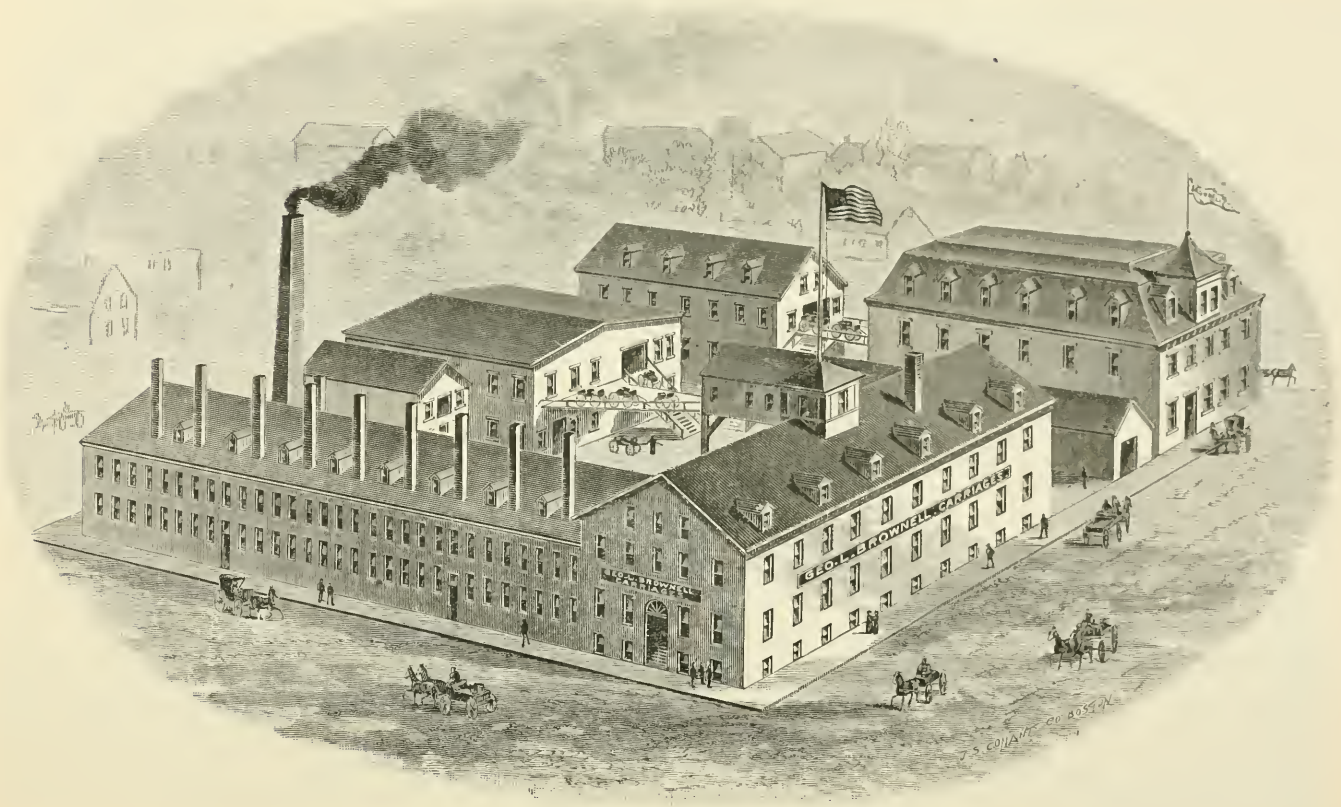
Blinds and window and door frames are also manufactured to some extent, and particular attention is given to planing, scroll sawing, and jobbing, by Mosher & Brownell, A. W. Allen & Son, Sturtevant & Sherman, and Brightman & Washburn.

CARRIAGE MANUFACTURERS.

A prominent industry is the manufacture of fine carriages, and although a number of concerns are engaged in the business, only the highest grade work is done.

The largest factory is that of George L. Brownell, on Cannon street. A specialty is made here of the manufacture of fine hearses, coaches, and undertakers' wagons, but light carriages of every kind are also made at the factory.

At the age of seventeen, Mr. Brownell, who was a Westport boy,



GEORGE L. BROWNELL'S CARRIAGE MANUFACTORY.

was apprenticed to Ayres R. Marsh, in New Bedford, to learn the trade of carriage making. After four years Mr. Brownell bought the business of his employer, and in 1846 an increasing business led him to make extensive additions to his shop. In 1853 he built a new shop on Third street. At about this time he commenced the manufacture of hearses, and in 1863 further accommodations were required and he bought the stone building at the corner of Acushnet avenue and Cannon streets, formerly occupied by Samuel Leonard & Sons. This building was refitted and occupied by him on the 12th of November. A public dedication was arranged by Mr. Brownell's friends and about fifteen hundred people were present.

This building was a two and a half story structure of stone, one hundred by sixty feet in area. A growing business has rendered additional buildings necessary. First an addition was built extending from the main structure a distance of one hundred thirty feet on Cannon street. It is two stories high and thirty feet wide. Then a second wing was built and two large buildings were erected in the yard, the entire buildings covering an area of seventeen thousand one hundred sixty feet, and finally a warehouse was built on Acushnet avenue, seventy-five by forty feet in area and three stories high. The factory is now one of the largest in the country and gives employment to between fifty and one hundred men. Giles G. Barker is the superintendent of the factory.

The firm of Brownell, Ashley & Co. comprises J. Augustus Brownell and Joshua B. Ashley, and they manufacture fine grades of carriages of all varieties, excepting coaches. The business was started nearly seventy years ago by Joseph Brownell, the father of J. Augustus Brownell, in a building at the northeast corner of Fourth and Spring streets. About sixty years ago he moved his business to the two story stone building forty by one hundred feet in area, on the southeast corner of the same street, and about thirty-eight years ago the present proprietors were admitted to the firm. In 1854 a repository one hundred by fifty feet in area, and four stories high, was built on Fourth street, next south of the building on the corner. This building was occupied by H. G. O. Cole as a carriage manufactory for a few years, when Brownell, Ashley & Co. took possession, Mr. Cole moving to the factory on Acushnet avenue, then Third street, in the building vacated by George L. Brownell. The number of men employed is twenty-seven.

BROWNELL, ASHLEY & COMPANY'S CARRIAGE FACTORY.

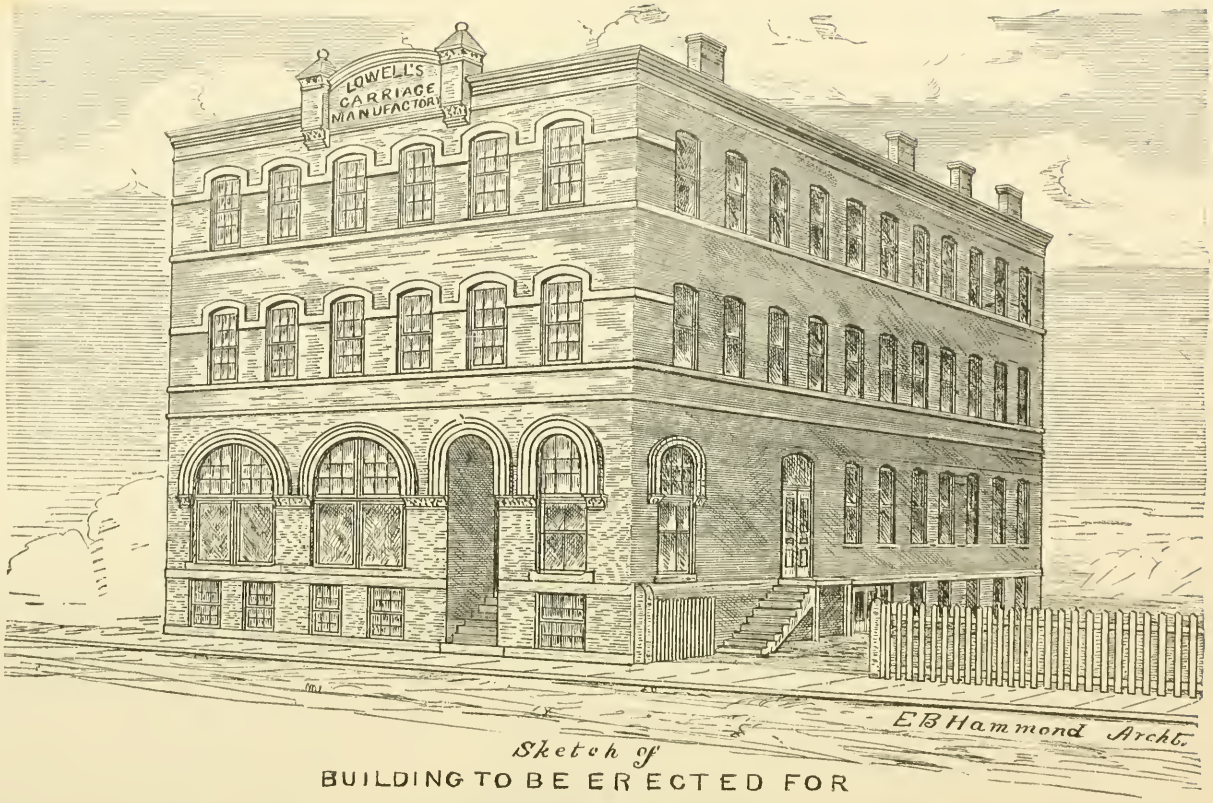
At the carriage manufactory of Clarence Lowell twenty-four men are employed, and fine light carriages are made. Mr. Lowell commenced manufacturing carriages on Middle street in 1874 and in 1880 moved into the factory formerly occupied by H. G. O. Cole, and previous to him by George L. Brownell, on Acushnet avenue, which he now occupies. This building covers an area nearly ninety-six by ninety-five feet and in a few months Mr. Lowell proposes to tear down the present factory and erect on the site a four story brick building with basement which he will fit as a model carriage manufactory. Between thirty and forty men will be employed in the new factory.

The carriage making business of James R. Forbes & Co. was started in the spring of 1863, when Henry H. Forbes and Henry C. Sears bought the Elm street Methodist church at the corner of Elm street and Acushnet avenue, where the present firm is located, and commenced the manufacture of carriages. Mr. Forbes bought out Mr. Sears' share in the business after seven or eight years, and conducted it alone until 1874, when he was succeeded by Charles H. Forbes, who carried on the business until 1879, when it passed into the hands of James R. Forbes & Co. The firm builds every description of carriage, from a sulky to a coupe, and twenty men are employed. The patronage is almost entirely local.

THE MANUFACTURE OF FERTILIZERS.

The works of the Clark's Cove Guano Company are advantageously and picturesquely situated on the west side of Clark's cove, and the property is extensive and valuable.

The works are easily accessible. Vessels drawing sixteen feet of water can be handled at the docks and the dock room is ample to load or discharge two large vessels and several small vessels at the same time. The machinery includes three tubular boilers of about ninety horse power each, a Brown engine of one hundred seventy-five horse power, two large crushers for phosphate rock, mixers, and three hoisting engines. The works and docks are lighted by electricity, furnished with a twenty light Ball machine, run by a Porter engine of twenty horse power. The buildings of the factory, outside



Sketch of

BUILDING TO BE ERECTED FOR

CLARENCE LOWELL

of the houses, cover about one hundred thousand square feet. The sales of guano for the past three years have averaged over twenty-five thousand tons.

The Bay State fertilizer, which leads all others used in this section, is a combination of phosphate rock, large quantities of animal bone and fish treated with acid, muriate and sulphate of potash, nitrate of soda, and kainit. These articles are seen piled in huge heaps upon the floors of the extensive storehouses. There are two varieties of the phosphate rock, one of which is known as "marsh rock." It is light in color and is dredged from the beds of South Carolina rivers. The other variety is drab in color and is found just under the soil on the river banks.

The entire manufacture takes place in a four story building, in which all the machinery is located. On the first floor the rock is crushed, and there are five runs of mill stones which grind it to a powder. Forty or fifty tons of rock can be ground here in a day and the mill stones will stand but about four months of constant use. This rock is then carried in its pulverized condition to the fourth story by an elevator, constructed on the principle of a chain bucket pump. Here the rock and fish are placed in the mixers. The fish have previously been boiled and pressed at the porgie factories, and the article which is used in the pulverizer is ground to a powder. The composition is treated with sulphuric acid and worked over in tanks by plows. Sometimes dried meat and blood from the western abattoirs are used instead of fish. From here, the mixture passes to the floor below, where it is placed in mixers with the other articles mentioned. It is then screened and the solid portion passes into a disintegrator where it is ground over and again passed through the mixing machine. Some of the ingredients are subjected to a drying process before mixing, and for this purpose an apartment has been constructed by which air is heated and dried, then cooled by passing through condensers, and, finally, when the temperature is reduced to seventy or eighty degrees, they are forced through the drying chamber by rapidly revolving fans. Finally, after leaving the mixer, the fertilizer passes to the floor below, the second, where it is piled in a huge heap and a chemical process ensues. While this is in progress the interior of the heap becomes very hot. The fertilizer then passes to the ground floor, where it cools, when it is ready for shipment.

As has been stated, this is the method of manufacturing the

grade most popular in this vicinity. The fertilizer manufactured for the cotton growing states is made after a different formula. The elements are not required in so concentrated a form, and tartar pumice, the residuum in the manufacture of cream of tartar, is employed as an absorbent. Bone black, which is ground bone treated with acid, and other special fertilizers are also made. The fertilizer which goes a long distance is usually transported in bulk, but it is bagged on the premises for the local market.

When the works were started the sulphuric acid used in the manufacture was brought to the works from New York in schooners provided with lead-lined iron tanks. The rapid growth of the business compelled the company, in 1883, to establish an acid works in connection with the plant and two years later the capacity of the acid works was increased by large additions, so that now between ninety and one hundred tons of sixty-six acid can be manufactured weekly. The acid chambers are lined with sheet lead, while lead pans cover the floor area. Iron pyrites is burned in ovens and nitrate of soda is decomposed with sulphuric acid in a vat. The sulphurous fumes and the nitrous gas meet in a large pipe and pass into a tank in the towers in the acid chamber. This tank is filled with quartz and percolating through the silica is sulphuric acid. The quartz divides the gases, which absorb from the sulphuric acid flowing through it, and are cooled by it. The sulphuric acid gas is then conducted through pipes which connect the four condensing rooms. The liquid acid forms on the sides and flows into the pans, from which it is drawn.

The wharf extends about two hundred fifty feet into the cove and there are brows running northerly and southerly, affording berths for a number of vessels at a time. There are tramways twenty-eight feet high, provided with cars into which cargoes are unloaded and thence carried to the various storage buildings. There are scales at convenient points and shutes extend from the tramway and lead into the building. Several hoisting engines are used in unloading vessels.

The help is comfortably quartered in a three story boarding house and six cottages located on the premises.

The corporation was chartered in 1881, with a capital stock of $100,000, and its product was first placed on the market in 1882. The paid up capital is now $800,000, the orignal sum having been augmented on several occasions as the business has developed.

The present officers of the company are as follows:

President—Charles W. Plummer.
Manager and treasurer—Vinal F. Hatch.
Directors—Edward D. Mandell, Charles W. Clifford, William W. Crapo, William J. Rotch, Samuel Ivers, Charles W. Plummer, Edmund Grinnell.
Superintendent—Browning Swift.
Clerk of corporation—Samuel H. Cook.
Chemist—C. C. Reed.
General travelling agent—Silas P. Richmond.

The company has offices in New York, Baltimore, Atlanta, and Portland.

The raw material used is analyzed in a laboratory on the premises, as is the product of the factory. A proof of the fertilizing percentages is thus constantly obtained before the shipment of any portion compounded is authorized. The value of a fertilizer depends on three elements,—the ammonia, the phosphoric acid, and the phosphate which it contains. In these respects analysis proves the fertilizers made here equal to any in the market.

The company also carries on factories at Atlanta, Americus, and Social Circle, all in the state of Georgia. These each have a capacity for making ten thousand tons of fertilizer yearly. In connection with the factories at Americus and Social Circle are cotton seed oil mills, using five thousand tons each of cotton seed annually.

THE INSURANCE BUSINESS.

Joseph S. Tillinghast was the pioneer insurance agent in New Bedford, and the agency which he founded is still vigorous and enterprising. Mr. Tillinghast began business as an insurance agent on the 10th of October, 1835, in an office on Union street, a short distance east of Second. Here, and in the stone building on North Water street recently occupied by the Peirce & Bushnell Manufacturing Company, he remained until about twenty-five years ago, when he removed to the building at the southeast corner of Water and Hamilton streets, where his successors, Messrs. Tillinghast & Alden, yet remain. Mr. Tillinghast died on the 26th of January, 1876. His

son, Joseph Tillinghast, was immediately appointed agent of the companies represented by the agency, and on the 1st of the following February formed a partnership with George N. Alden, who had been a clerk in the office since 1865. The agency now, as it always has, represents fire companies exclusively. At the time of its founder's death, he represented twenty-six leading companies. During his long career as an agent he had received in premiums one million dollars and had paid out in losses seven hundred thirteen thousand dollars. He had seen the failure or retirement from business of thirty-eight companies, for which he had received premiums of four hundred fifty thousand dollars and paid losses of three hundred twenty-five thousand dollars. The present firm of Tillinghast & Alden now represents twenty-six companies, all of which are among the foremost fire insurance companies of the world.

The Bristol County Mutual Fire Insurance Company has its headquarters in the office of Messrs. Tillinghast & Alden, Mr. Alden being its secretary. It was organized in Taunton, being chartered February 29, 1829, and was removed to this city September 14, 1839, Joseph S. Tillinghast then being appointed its secretary. At his death George N. Alden was chosen secretary. The company is strictly a mutual company, insuring only the best class of risks, and has a highly honorable and successful career. On the 31st of December, 1887, the date of the last annual report available, it had in force twenty-one hundred ninety-two policies, on property insured at $3,777,056. The losses for the preceding year amounted to only $1752.79. No assessment has been called since January, 1879.

The present officers are:

President—Jonathan Bourne.

Directors—Jonathan Bourne, Joseph W. Cornell, Oliver P. Brightman, George F. Kingman, Isaac H. Coe, James Taylor, Thomas H. Knowles.

Secretary and treasurer—George N. Alden.

Samuel H. Cook, who has a particularly handsome office in the building of the National Bank of Commerce, has grown up in the marine insurance business. He entered the office of the Mutual Marine Insurance Company, in January, 1859, as a clerk. On the expiration of that company's charter in 1861, it retired from business, and in 1863, the Ocean Mutual Insurance Company was organized to succeed it. Mr. Cook was appointed secretary of the Ocean com-

pany soon after its organization, to succeed William H. Taylor, who was made its president and filled the position until its affairs were closed. The great disaster to the whaleships of the Arctic fleet in the fall of 1871 crippled all the New Bedford companies, and as a result the Ocean Mutual, the Union Mutual, the Pacific Mutual, and the Commercial Mutual were all obliged to leave the field. Beside winding up the affairs of his own company, Mr. Cook performed a like service for the Commercial company. When the disaster came to the local marine insurance companies, Mr. Cook had already made arrangements with insurers in other cities and was prepared to meet the wants of the whaling interest. He at once established a marine insurance agency, to which, at the request of many of his patrons, he soon added fire and life insurance, and has since carried on an extensive business in all three branches. Mr. Cook represents fifteen leading American and foreign companies. He acts also as an adjuster of insurance, and is frequently called upon to render service in the capacity of an insurance expert.

The firm of Lawrence Grinnell & Co., located at 60 North Water street, was established many years ago by the senior partner. Richard W. Grinnell was a member of the firm for a time, but he retired on the first of April, 1882, when Joshua C. Hitch succeeded him. Messrs. Grinnell and Hitch now conduct the business. This firm represents eighteen companies, embracing fire, marine, life, plate glass, and steam boiler insurance, and among those on its list are the largest fire insurance company and the largest life insurance company in the world. Especial attention is given to marine insurance, in the placing of which both members of the firm have had long experience.

Hiram Van Campen established his agency in 1852, and it is now located at No. 15 North Water street. He represents eighteen companies, most of them being fire companies, but transacts some life and accident business.

Thomas M. James established his fire insurance agency in 1865. He is located at No. 40 North Water street, and represents five companies.

Ivory S. Cornish has a fire and life insurance business at the corner of William street and Second street, and Jonathan W. Ellis is a fire insurance agent.

PRIVATE BANKING HOUSE.

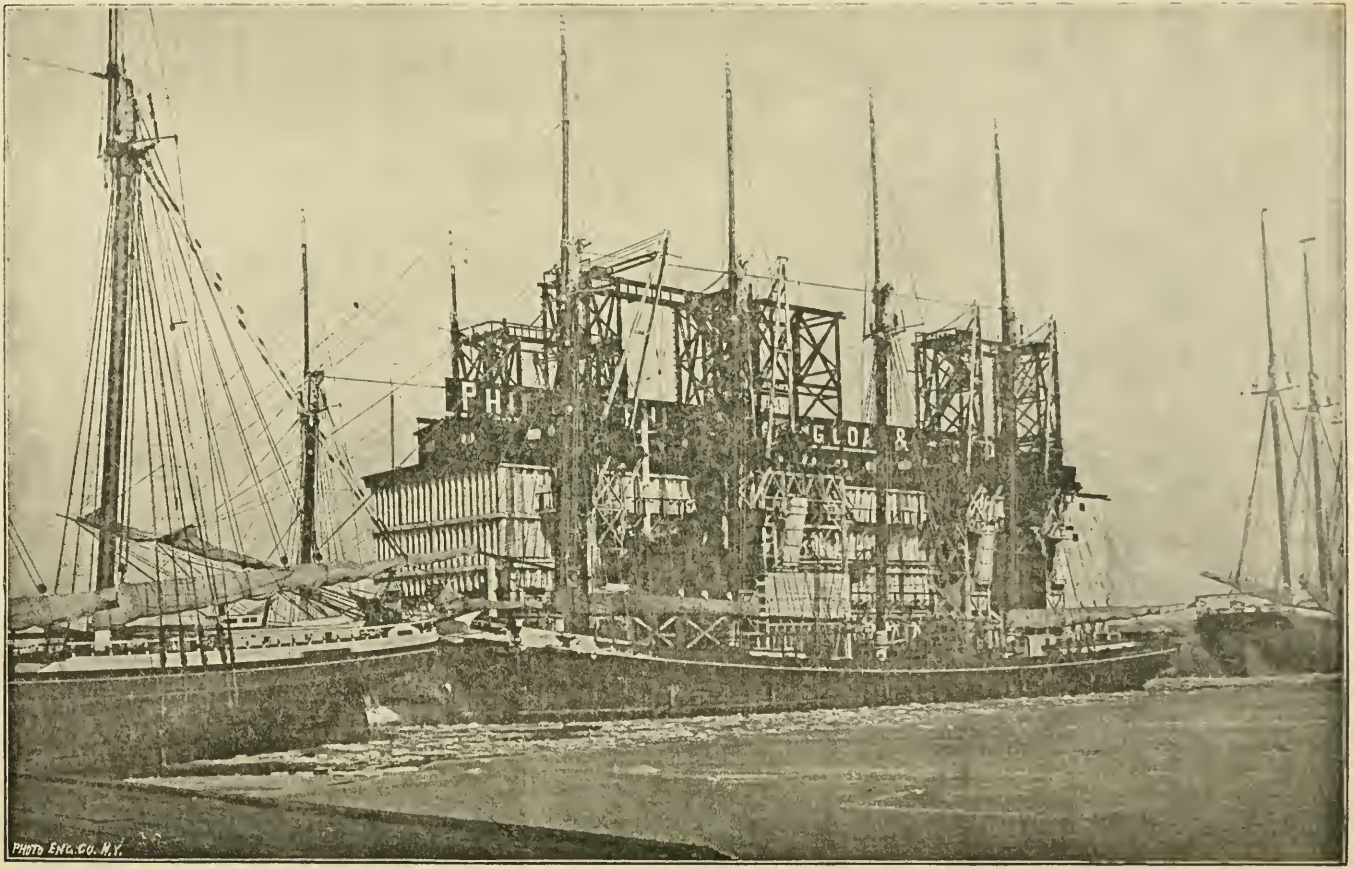
The banking house of Sanford & Kelley is located at 47 North Water street. Their rooms have about twenty-five hundred square feet of floor surface and are conveniently arranged and neatly furnished. The partners are Gardner T. Sanford and Charles S. Kelley. They do an investment business, are members of the Boston Stock Exchange, and are stock auctioneers. They have a private telegraph wire connecting their office with that of their correspondents in Boston, by which they have telegraphic communication with New York, Philadelphia, Chicago, and Providence. They were the first in this city to lease a private wire. The business was established in 1848 by the late Edward L. Baker. He sold out to Samuel P. Burt, his confidential clerk, in 1865. In 1875 Mr. Burt took as partners Mr. Sanford and Mr. Kelley, under the firm name of S. P. Burt & Co., Mr. Burt being located in Milwaukee, Wis. On the death of Mr. Burt, in the west in 1884, the surviving partners formed the present firm.

THE COAL BUSINESS.

The coal pockets of the Philadelphia & Reading Coal & Iron Company loom up conspicuously when the city is approached from the water front. The wharf and pockets are located at the foot of Walnut street and the plant was established in 1874–75. After being leased to several parties, possession and operation were resumed by the owners and builders in 1882 as a forwarding and distributing depot for the company's coals for the local mills and to inland dealers and manufacturers. The latter traffic is carried on through cars of the Old Colony Railroad Company to all points on its main branches and connections.

The main pocket is two hundred ten feet long and forty-five feet high, with a capacity of seventy-two hundred tons. Vessels of the heaviest draft that can come into the harbor discharge at each side, by means of derricks, shears, and engines.

The company's steamers, of seventeen hundred thirty tons, work



COAL POCKETS OF THE PHILADELPHIA & READING COAL & IRON COMPANY.

four hatches at once, and discharge, ordinarily, in ten hours, although the work has been accomplished in seven and three-quarters hours.

At the head of the north side of the dock is a shipping pocket one hundred feet long, where vessels of the same tonnage as the above can discharge either into cars, the pocket, or large storage bins.

There are three of these bins, of fifty-three hundred, forty-two hundred, and seventy-five hundred tons, respectively, which are intended to hold the winter supply, when the weather renders uncertain the arrival of cargoes from the company's shipping points at Port Richmond, on the Delaware, and Point Liberty, New York harbor.

The total storage capacity is twenty-six thousand tons.

When unloading one of the company's large steamers, eighty-six people are engaged on the premises.

Much of the coal is brought here in barges, towed by powerful tugs, and in the largest schooners. The arrivals in 1887 were as follows:

Sailing vessels,	129
Barges,	45
Steamers,	24
Total number of vessels,	198

These vessels brought one hundred seventy thousand three hundred forty-nine tons of coal, which were shipped away on the cars.

Charles W. Agard is the local superintendent, and the business has been developed to a large extent under his administration.

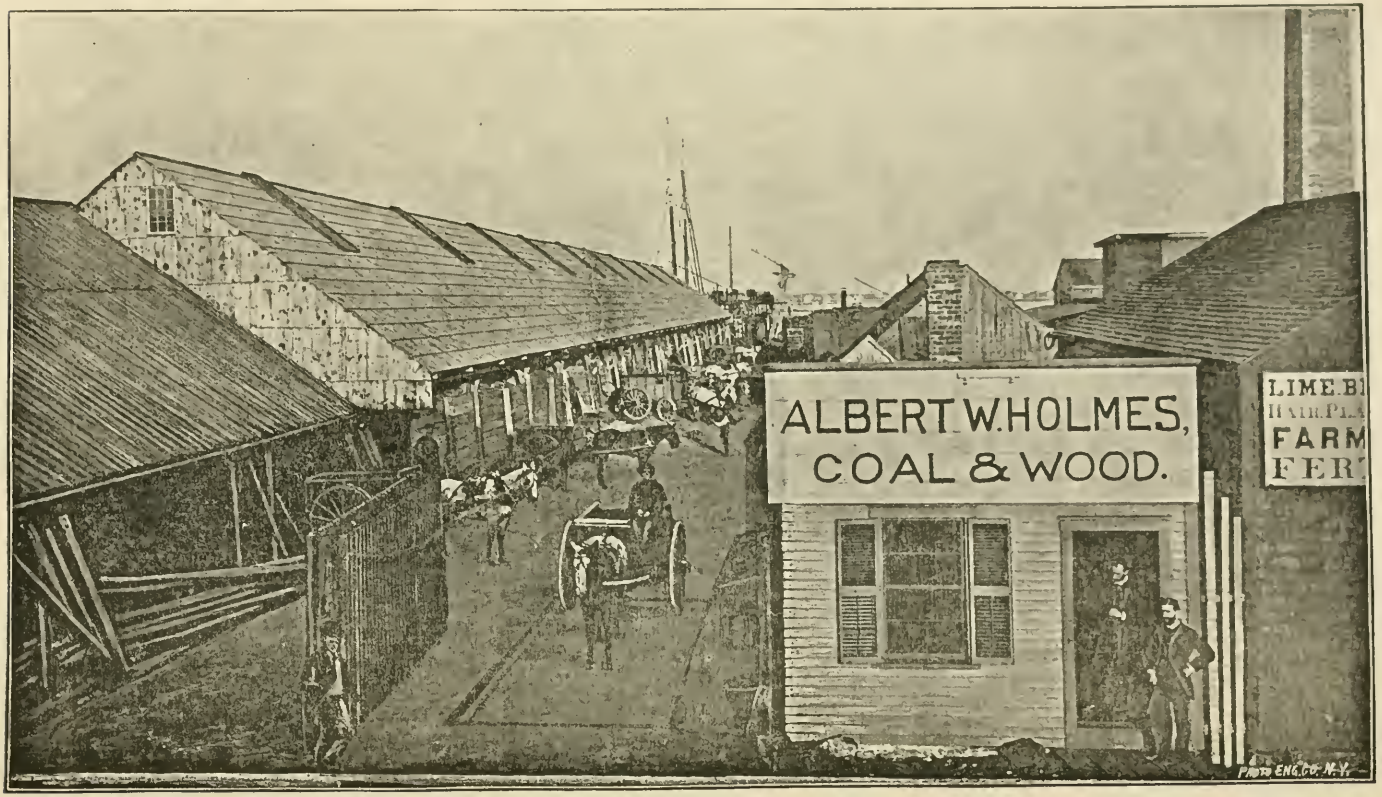
The large business of Hart & Akin was established by John H. Perry about the year 1850. He started the coal trade on the wharf at the foot of Walnut street and also engaged in grinding paint. Soon afterward, George Wilson was admitted into partnership and the firm name then became John H. Perry & Co. During the war, the wharf at present occupied was bought of F. and G. R. Taber, and in 1866, Samuel C. Hart purchased Mr. Wilson's interest. In 1874, Mr. Perry retired and Francis T. Akin became the junior partner in the firm of Hart & Akin. At about this time a wood yard was added to the business. The company took possession at this time of the south wharf, which is five hundred fifty feet long and one

hundred twenty feet wide. There are two lines of sheds upon it, each two hundred forty feet long, forty feet deep, and twenty feet high. A stationary boiler of twenty horse power, with two engines, is employed in unloading, and with two gangs and the facilities at the command of the firm it is able to discharge seven hundred tons from a vessel in ten hours. The company handles thirty or forty thousand tons of coal annually. The grinding of paint has been discontinued by the firm, but it still engages in the sale of paints and oils, as well as hay, straw, fertilizers, and naval stores. About fifty men are in the employ of the company. The firm also does a house, ship, and sign painting business with an office at No. 9 North Water street.

The coal business now conducted by David Duff & Son (David and John Duff) antedates that of any other coal firm in the city, having been originally established by Capt. George Randall. The business was purchased of Parker & Haskell by the present firm about a year ago, and the facilities have since been enlarged by the erection of a pocket on Fish Island, one hundred twelve by thirty-eight feet in area, with a height of twenty-one feet between the floor and the run. This pocket is provided with a hoisting apparatus of an improved pattern and has a capacity of twenty-three hundred tons. The capacity of the other sheds on the island is about five thousand tons and the firm handles about ten thousand tons of coal annually. About twenty men are employed.

The coal business of Albert W. Holmes, at Atlantic wharf, was established over thirty years ago, by Joseph Cundall, who built the wharf. The business was subsequently carried on by Peleg S. Macy until 1869, when it passed into the hands of Josiah Holmes, Jr., who added to the business wood, hay, and straw departments. In 1884 the present proprietor succeeded to the business of his father. The property occupied embraces over an acre and a half and the sheds, which are four hundred by forty-five feet in area, have been entirely rebuilt within a year. Mr. Holmes' business is increasing and he employs fifteen men.

Temple S. Corson carries on the coal business on Front street, at the foot of Middle. The coal yard, at the head of this wharf, is seventy-five by two hundred feet in area, and is provided with sheds and pockets. He employs about fifteen men and handles between eight thousand and fifteen thousand tons of coal annually.



COAL AND WOOD YARD OF ALBERT W. HOLMES.

The coal business of Hathaway Brothers (Benjamin F. Hathaway, Jr., and James L. Hathaway) was established by Benjamin F. Hathaway in December, 1865. The above firm succeeded Mr. Hathaway about a year ago. Ten men are employed and the retail trade of the firm aggregates about eight thousand tons annually. The wharf and yard of the firm is next south of the Old Colony passenger station.

Bates & Howard have been established in the coal business for about two years. Their yard is at the foot of Hillman street.

GAS AND ELECTRICITY.

In 1850 a company of gentlemen from Philadelphia, acting together with Messrs. James B. Congdon and Abraham H. Howland, obtained a state charter and the necessary city authority for supplying the city with gas, organizing with a capital of $50,000. Other citizens soon bought out the Philadelphia interest and a permanent organization was formed, with William C. Taber as president and James B. Congdon as treasurer, and the works were completed and the gas turned on February 14, 1853. As first erected the entire works occupied but a small part of the present situation on the water front at the foot of Madison, then called Bush street, and consisted only of a brick retort house, a small gas holder capable of holding thirty-five thousand cubic feet, and an office and coal shed. Successive enlargements were afterwards made, until the plant now covers over three acres and the storage capacity in the three holders is about two hundred thousand feet, with an annual sale of nearly fifty million. To meet these expenditures the capital stock was gradually increased up to the year 1888 to $225,000 and the entire works had been practically rebuilt. For over thirty years of the interval Messrs. Taber and Congdon had retained their respective positions, until the death of Mr. Congdon was followed in a year or two by the resignation of Mr. Taber, and Gilbert Allen was elected to serve in both positions. In March, 1888, permission was granted by the state gas commission to enter upon the business of manufacturing and selling electricity for light and power, and the company acquired by purchase the plant and property of the New Bedford Electric Company, which had been furnishing arc lamps to the city from their station at

the foot of School street. To meet the purchase and subsequent enlargements further issues of stock were authorized and the capital was increased to $300,000. In 1881 the office of the company was removed from the works to the second story of No. 71 William street and the gas company undertook the sale and rental of gas stoves and fixtures. The manifest advantage of gas stoves was so quickly recognized that in 1886 larger quarters were found by hiring the store No. 73 William street and opening a general sale store for all kinds of gas apparatus, equipping the basement with all the apparatus for new and repair work in all kinds of gas fittings. To such an extent has this business grown that during the year 1888 fully six hundred stoves were rented and more than one hundred houses were piped for gas, requiring long additions to the street mains, which now extend about thirty miles in the streets. Much of this increased demand is due to the lower prices for the gas itself, which has gradually fallen from $3.50 net per thousand feet, when the company was first organized, to $1.80 net, or, in a quantity of four thousand feet per month, to $1.50. Following the usual policy of the company it may be expected that further radical improvements now contemplated in the economical manufacture of gas will reduce the rates yet lower. After the company's accession of the electric plant this branch of the business was more fully developed and four Westinghouse incandescent dynamos, with a capacity of twenty-six hundred lamps of sixteen-candle power, were successively added with the necessary engines, until the power plant is now rated at six hundred horse power. A new generator for supplying motive power and a divided arc circuit were installed and as the demand now grew greater than the capacity of the station, contracts were given out (and the building is almost completed) for an entirely new brick station to be placed on the gas works property with a capacity of twelve hundred horse power. As designed, this new building will be one hundred fourteen by eighty-three feet, of two stories, to contain seven boilers, and will be supplied with compound condensing engines and every advantage which experience can suggest for the economical and successful generation of electricity of any tension or voltage, either full arc, divided arc, incandescent, or motive power, — in any way, in short, in which electricity can be commercially supplied. The gas company has endeavored in all this to employ the best possible methods of manufacture and distribution and the best men it can obtain, and the

practical result has demonstrated the success of the undertaking. In the distribution of its electric currents in all its wiring, of which it now has over seventy-five miles, it has not added to its original purchase one foot of any but the best insulating wires. At the beginning, the decision was made that all wires, both in the streets and the houses, should be so well protected that every source of danger should be as far as possible eliminated,—a decision which has won the hearty approbation of the insurance inspector and of the electrical engineers who have inspected the work. With the completion of the new works in the early spring of 1889 the company confidently expects to be able to manufacture electricity as efficiently and sell as cheaply as any other station similarly situated and with as much safety to the consumer as by any other system. The present officers of the company are Gilbert Allen, president and treasurer; Robert B. Taber, secretary, who has also charge of the electrical department. Gideon Wood has had charge as superintendent at the gas works for over thirty years, and Ellery R. Bassett is superintendent at the electric (School street) station. The entire force now numbers over seventy-five men.

The Edison Electric Illuminating Company was organized in 1884, but nothing was done until the following year, when the company started with a capital stock of $50,000. Ground was broken for the station, which is of brick, two stories high, situated on Middle street, October 9, and lighting was commenced July 23, 1886, with five hundred or six hundred lamps connected. The total number of lamps now subscribed for is over five thousand. A dividend of two and one-half per cent. was paid the first year and the capital stock was doubled. In 1887 a dividend of 6 per cent. was paid on the increased capital. The plant includes three boilers, each of one hundred twenty-five horse power, four engines, of sixty, one hundred, one hundred twenty-five, and one hundred fifty horse power, respectively, and eight dynamos. There is a power system connected with the same wires.

The present officers are as follows:

President—John W. Macomber.

Treasurer, clerk, and manager—Charles R. Price.

Directors—Isaac W. Benjamin, Oliver P. Brightman, John J. Howland, William D. Howland, Hosea M. Knowlton, John W. Macomber, Charles W. Plummer, Charles R. Price, and Thomas B. Wilcox.

BAKERIES.

The first patent bakery in New England was established by David A. Snell, who now carries on one of the largest establishments for the manufacture of plain and fancy crackers and cake goods in Massachusetts. The business was established here in the fall of 1857, at which time the consumption of flour was three barrels a week. In the spring of 1858 he took as a partner Charles D. Capen and bought out Jacob B. Hadley, thus greatly increasing the business and making the consumption of flour thirty barrels weekly. In the fall of 1859, Mr. Snell sold his interest in the business to his partner and established the first patent bakery in New England against the combined influence of the four shipbread bakers in the city. The war breaking out the following year, Mr. Snell made large contracts with the government for supplying army bread. In 1867 the whaling business began to decline and, the war being over, the demand for shipbread became light. At this time Mr. Snell removed to the building at the northwest corner of William and Water streets, where he engaged in another branch of the business, the manufacture of plain and fancy crackers and cake goods. A building about one hundred feet in area and three stories high is occupied, and the most improved machinery is used. Six years ago Mr. Snell started a branch bakery at the corner of Rock and Bedford streets, in Fall River, which is now in successful operation. The total number of hands employed in the bakery is forty-four, and fourteen travelling salesmen are employed, who cover the whole of New England. The consumption of flour is now about ten thousand barrels annually.

The bakery of Jonathan Buttrick at No. 18 Centre street was established between sixty-five and seventy years ago by Enoch Horton. Mr. Horton learned his trade with Nathaniel Tucker, of Milton, to whom Mr. Buttrick's father was also apprenticed, and simultaneously with the establishment of the bakery here, Mr. Buttrick commenced business in Fairhaven. Mr. Horton's bakery subsequently passed into the hands of Watson & Manchester and then Samuel Watson carried it on. The present proprietor learned the trade of his father and went to work for Mr. Watson in 1878.

The following year Mr. Watson died and Mr. Buttrick assumed the business. Mr. Buttrick bakes shipbread only and for this purpose employs two brick ovens and a rotary oven. There are no other ingredients in the bread excepting flour and water, and it is baked in cakes, about five inches square, weighing five to the pound. It is packed in air tight casks and will keep from three to seven years without moulding. An average of seventy-five barrels of flour is baked up for a vessel starting on a voyage and further supplies are shipped out to the islands for the vessels. Mr. Buttrick bakes the bread used by all the whaling agents, with one exception, and the consumption of flour at this factory for seven years has been as follows: 1881, fifteen hundred sixty-four barrels; 1882, sixteen hundred seventy-one barrels; 1883, fourteen hundred eighty-four barrels; 1884, ten hundred sixty-seven barrels; 1885, eleven hundred eighty-seven barrels; 1886, nine hundred ninety-eight barrels; 1887, ten hundred ninety-two barrels.

Henry H. Fisher, E. C. Milliken, and S. P. Richmond & Co. carry on extensive bakeries, their products being chiefly for local consumption.

PAINT MANUFACTORIES.

The paint manufactory of Brownell & Co. is located at No. 13 North Front street. It was established in 1879 by H. J. Brownell, at the corner of First and School streets, and in January, 1880, Albion T. Brownell entered the firm. Subsequently H. J. Brownell withdrew from the partnership. The business is the grinding of dry white lead, blacks, verdigris, and dry colors. The machinery consists of a lead mixer, a lead mill with a French burr stone, a color mixer, and three color mills. The firm also deals in painters' supplies and has a market extending from Portland, Me., to New Jersey.

In 1861 George Kirby, Jr., commenced the manufacture of paints and laid the foundation for one of our leading industries. The firm of George Kirby, Jr., & Co. now transacts a business aggregating one hundred thousand dollars annually, and Kirby's steamship black and Kirby's copper paints are known throughout the country. For twenty-three years the factory has been located on Wall street. In April, 1887, it was destroyed by fire and a new building was erected,

one hundred twenty by one hundred feet in area, and one and two stories high. Fine colors are imported and painters' specialties are manufactured. Twelve hands are employed. The firm now comprises George Kirby, Jr., George A. Kirby, and Eugene M. Barrows.

The firm of Brightman Brothers, consisting of Frederick W. and William O. Brightman, was established about a year and a half ago at No. 7 Rodman street. The business is that of grinding colors in oil and japan. The machinery consists of two mixers and three mills.

NOVELTIES IN METAL.

The Weeden Manufacturing Company manufactures novelties in metal and occupies the two story brick building Nos. 112 and 114 North Water street. The business was founded by William N. Weeden in 1883. Mr. Weeden is a native of New Bedford. He learned the trade of a jeweller of James T. Almy, of this city, and afterwards engaged in business in Boston for about a dozen years. At the expiration of that time he made an engagement with the Benedict & Burnham Manufacturing Company, at Waterbury. While in their employ the Waterbury watch was brought to them and put into his hands to develop, and finally its manufacture caused the formation of the Waterbury Watch Company, of which he was first superintendent for four years, visiting Europe three times in that period to introduce and perfect the manufacture of the watch. In the summer of 1882 he severed his connection with the watch company and removed to this city, establishing himself in business at Grinnell's foundry, where the necessary tools were manufactured. A growing business caused him to remove to the building he occupies at present, where he leased one-third of the upper floor. As his goods became popular and greater facilities were required, he branched out until finally the entire building was employed. In 1884 he invented a toy engine under an arrangement with Perry, Mason & Co., publishers of the Youths' Companion, and later this scientific toy was patented. The engine is an upright, complete miniature engine, eight inches high, with diameter of boiler two and three-quarters inches, having a capacity of half a pint; area of piston, one hundred fifty-nine thousandths square inch; length of stroke, nineteen thirty-seconds inch;

diameter of fly-wheel, one and five-eighths inch; weight of fly-wheel, one ounce; diameter of pulley, five-eighths of an inch. The entire machine consists of forty-one separate pieces, and before it is ready for shipment is nicely packed in a box with sawdust, over four hundred distinct operations being required to make it. All the working parts of the toy are nickel plated, as well as the smoke-stack, boiler, and fire-box. Every engine is run and tested before packing, and this manufacture necessitates a large outlay, as the engines are put into the works in lots of ten thousand at a time, several tons of lead, antimony, tin plate, and other metals being consumed in their manufacture. Movable toys were devised, which the engine operates, and all the boys know what the "Village Blacksmith" and "Machine Shop" are.

Mr. Weeden also manufactured luminous match safes in great varieties, magic lanterns, sewing assistants, and musical watches. All the machinery employed in the manufacture is designed and made on the premises.

Inasmuch as the work at the factory required so much of Mr. Weeden's time that he could not properly attend to the outside business of the firm, a stock company was formed in July, 1887, with a capital stock of $50,000, to manufacture Mr. Weeden's novelties, and the officers are as follows:

President—J. Arthur Beauvais.
Treasurer—Charles E. Barney.
Superintendent—William N. Weeden.
Directors—J. Arthur Beauvais, Charles E. Barney, William N. Weeden, George S. Homer, and Edward S. Brown.

The latest invention of Mr. Weeden promises to become the most popular. It is a steam locomotive with a track. The latter is laid in sections and the locomotive runs for a half hour.

Over fifty hands are employed.

MISCELLANEOUS ENTERPRISES.

The Triumph Heat and Light Company was organized at Portland, Me., April 11, 1888, for the manufacture of gas and vapor stoves. The office of the corporation is at No. 39 Exchange street, Portland, but the business of the company is transacted at the office

of the treasurer, No. 44 North Water street, in this city. The factory is located here also, in Swift & Allen's block, Front street. The stock consists of fifty thousand shares of the par value of ten dollars each. The company manufactures various forms of burners for producing heat from illuminating gas, water gas, natural gas, and the vapor of gasoline. It also makes an improved form of vaporizer for the production of gasoline vapor, and among its productions is a combination piece of furniture in the form of an antique clock, containing a stove, with other combinations. Gas burners for use in the fire pot of any ordinary cook stove, the grate and lining being removed, are also made here. The heaters produce intense heat with a small consumption of fuel and are practically odorless while in operation. All the articles manufactured by the company are the inventions of Robert B. Carsley, of this city. The officers of the company are as follows:

President—Edmund Rodman.
Vice president—James H. Murkland.
Secretary and treasurer—James L. Gillingham.
Directors—Edmund Rodman, James H. Murkland, Oliver P. Brightman, Joshua B. Winslow, Pardon Cornell, Frank C. Smith, Robert B. Carsley.
Superintendent—George D. Brown.

The latest addition to our diversified industries is the manufacture of pianos, under the patents of Hiram B. Nickerson, of this city, in the third story of Parker's block, on Middle street. The piano differs from others in having one-half the strings run through the back of the plate, and the remainder through the front, with a differential screw for a tuning pin, thus equalizing the strain and improving the tone. By means of the tuning device it is claimed that an upright piano will hold its tune ten times longer than by any device now in use. The invention at once secured the approval of expert pianists and tuners and the endorsement of a committee of the Board of Trade of this city, among others.

In June, 1888, the Nickerson Piano Company was organized under the laws of the state of Maine, with $100,000 capital and the following officers:

President—William Lewis.
Clerk—George H. Nichols.
Assistant clerk—Charles H. Holden.
Treasurer—Frank R. Hadley.

Directors—Wendell H. Cobb, Hiram B. Nickerson, James C. Stafford, and William Lewis.

The manufacture was commenced in September. At present the cases and actions are bought at manufactories, and the Nickerson patent is put in here. The pianos are high priced instruments, retailing at from five hundred dollars to six hundred dollars, but it is claimed that they are superior to any other piano in the world.

The Henry V. Davis Chemical Works are situated on Court street, between Chancery and Park streets, and prussiate of potash and cyanide of potassium are manufactured here.

The works make the latter product in larger amount and of a higher grade than any other factory in the country, the only serious competition being in the imported article. The industry commenced in the manufacture of Prussian blue in a little shanty at the corner of William and Sixth streets, and about the year 1840 the business was purchased by Henry V. Davis and Philip B. Lewis. Soon after Mr. Davis became the sole proprietor, and on his death, several years ago, the heirs continued the business. About twenty hands are now employed here.

The prussiate is used in dyeing and calico printing, but of late years but little of this product has been made. The cyanide is largely employed in electroplating. There are two ovens at the works and the cyanide is formed by burning horn waste, hides or leather, and potash.

Thomas M. Denham & Brother manufacture shirts on a large scale in the three story block erected by the firm several years ago, on Acushnet avenue. The senior member of the firm commenced the manufacture in a small way in a room in Cole's tavern building, on Water street, in 1868. A few years afterward he took his brother Edward into the firm and removed his factory to the third story of Cummings building, where they remained until 1878, when they moved into the new building built by them for their use. The firm has seven patents under which it manufactures, and in the busy season employs two hundred hands, principally girls. As an indication of the development of the business, it may be stated that the first year Mr. Denham manufactured eight hundred shirts. Now twelve hundred shirts are frequently made in a day.

Denison Brothers own and operate the two large flour and grain mills situated at the corner of Water and School streets and at the

foot of Hillman street. No flour has been manufactured here for five or six years because of the superior facilities at the west, but corn and feed are ground at both mills, and the firm does a large business in cereal products. The business was established and the south mill built in 1857 by Joseph B. Warner and John H. Denison, under the firm name of Warner & Denison. This partnership continued until 1865, when Henry C. Denison was admitted and the firm name became Warner, Denison & Co. About the year 1868 Mr. Warner withdrew and the firm name was changed to J. H. Denison & Co. In 1877 George Wilson was admitted into the business and the north mill was purchased. Mr. Wilson remained in the firm three years and on his withdrawal the firm name became Denison Bros., and so it remains. Twenty-seven men are employed.

The business of Coffin Bros., paper box manufacturers, was established about thirty-five years ago by Frederick Coffin, the senior member of the firm. He continued to conduct the business with his brother, Charles H. Coffin, until 1883, when his nephews, Walter H. and Arthur S. Coffin were admitted to partnership. The three story building, No. 38 Middle street, is occupied as a factory and about fifteen hands are employed. Pasteboard boxes of all sizes and styles are manufactured and a specialty is made of the Coffin folding paper box.

The New Bedford Hydraulic Motor Company manufactures water motors at No. 13 Rodman street, and a large number is now in use. The invention of this motor consists in an impact water-wheel wherein is provided a novel adjustable and removable supplying contrivance, a novel indicator, and a novel guarded air-vent. The speed of the motor can be regulated and indicated to an almost infinitesimal degree by hand or speed governor. Fred. S. Gifford is the manager of the company.

Job Wade, currier, occupies the three story brick building No. 17 Hamilton street. He finishes leather and his specialties are the manufacture of carriage trimming leather in colors and welting and inner soles for shoes made on the Goodyear machine. In addition to the factory on Hamilton street Mr. Wade occupies a floor in a building on Commercial street. Twelve men are employed.

The New Bedford Reed Company is located at No. 189 North Water street, and the firm consists of Manuel D., John D., and Joseph D. Martin. It manufactures weaving reeds for cotton, woolen, and

silk mills and does a thrifty business. The company has been located here for about three years.

Henry C. Fowler, manufacturer of loom harnesses for silk and cotton mills, is located in the second story of the building on Parker's wharf, at the foot of Middle street. He has been in business in this city for two years and employs twelve hands.

J. H. Lawrence, top roll and clearer coverer, has a factory on the lower floor of this building. He employs ten hands and does work for all the cotton mills in the city.

The bomb gun and lance has taken the place of the harpoon in whaling. Shoulder, darting, and swivel guns are manufactured by William Lewis, under the Cunningham patent, Eben Pierce, 12 William street, Daniel Kelleher, 19 North First street, and Selmar Eggers, 10 William street. An interesting circumstance in connection with the subject may be related. A short time ago a blue whale was taken off Finmark, on the coast of Norway, in which was found a lance of Mr. Pierce's patent, made after a pattern manufactured by him twenty years ago.

George H. Freeman manufactures writing and copying inks at No. 17 Centre street. He has been engaged in this business for about a dozen years and his inks are considered as good as any made.

There are now scarcely as many sail makers in the city as there were sail lofts in the palmy days of whaling, not over twenty men being regularly employed in the branch of industry which was once so important here. The firms now engaged in sail making are Thomas M. Hart & Co. (Thomas M. Hart, James C. Briggs, and Oliver W. Cobb), whose loft is on Commercial street, Edward E. Hitch, who carries on the business at Merrill's wharf, Job Almy, whose loft is on Middle street, and Chapman & Shurtleff, corner of Union and Front streets.

This statement is true of other kindred industries, such as rigging, pump and block, and mast and spar making. The most prominent riggers now engaged in the business are Peter Black, Abram Allen, and John L. Olstein. The pump and block makers are Charles W. Coggeshall, Walter D. Swan, Thomas W. Swift, Phineas White, and Edward S. Taber, and the prominent mast and spar makers are Rodolphus Beetle and Johnson & Howland.

Prominent among the marble workers are Frederick E. Allen, 20 North Second street, Theodore W. Cole, 20 William street, the

New Bedford Monumental Marble Works, 25 Fourth street, and A. Moore & Co., Pope's Island.

The leading manufacturers of roofing and concrete pavers are Perkins & Chase, John Bertram & Co., and Lloyd Bros.

Among the leading building contractors are Brownell & Murkland, who have an office in room 8 of Liberty Hall building and who make a specialty of mill construction; Samuel C. Hunt, at 41 William street, the builder of the Harrington school house; John N. Morris, at 73 Grinnell street, who has erected many handsome dwellings; George E. Briggs, at 54 Dartmouth street, who is a thorough and careful workman; and Charles O. Brightman, at 82 Mill street, whose work includes some of the best buildings in the city.

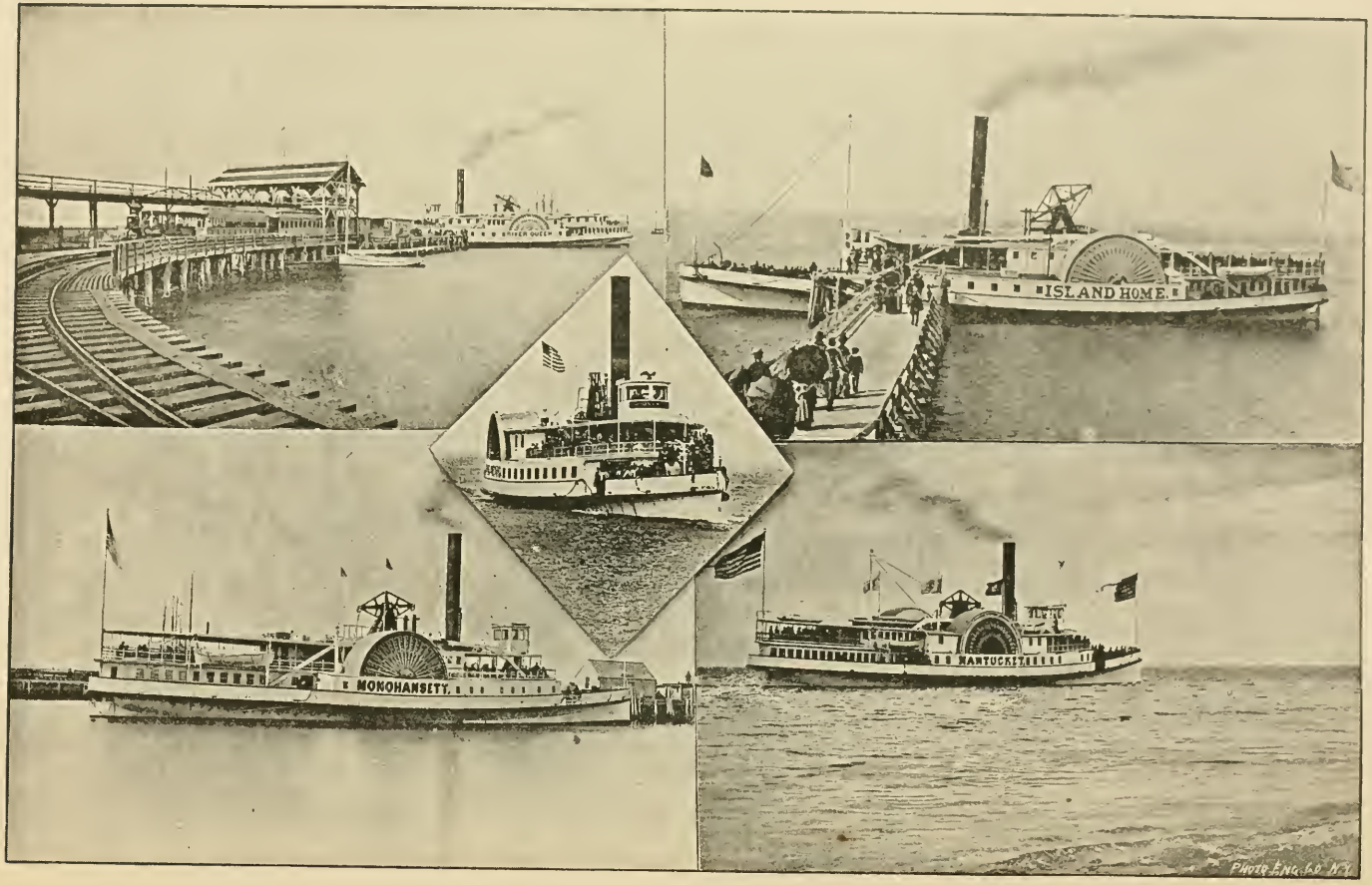
Thomas J. Gifford & Co. make Park's steam heater, an appliance which has won much favor for heating both residences and public buildings. The factory is at 367 Acushnet avenue, and plumbing, steam fitting, and gas fitting, are extensively carried on.

Thomas B. Tripp, whose office is at 325 County street, is a leading real estate agent. He has had long experience, and few men are so well posted with regard to the value of landed property in this city or the adjoining towns as he. F. A. F. Adams is also a real estate agent with an office at No. 48 North Water street.

Connected with both the newspaper establishments—the Standard and Mercury—are large and well equipped job printing offices. The job printing business is also conducted by Paul Howland, Jr., in the Robeson building on William street.

F. W. Francis is a manufacturer of fine cigars at 23 Commercial street. He has also an office and retail store at 148 Union street.

Charles S. Paisler, at 160 North Water street, is a wholesale and retail dealer in masons' building materials, and does a large and increasing business.



STEAMERS OF THE NEW BEDFORD, MARTHA'S VINEYARD, AND NANTUCKET STEAMBOAT COMPANY.

CHAPTER V.

A DIVERSITY OF SUBJECTS.

ALL that has been said of New Bedford, of its history, its attractions, its industries, its social, religious, and benevolent activities, fails to exhaust the theme. The sons and daughters of this pleasant and happy city on the shore of the placid Acushnet, wherever they may be scattered throughout the world, will with one voice testify that no word in her praise is too glowing, and that the picture of her charms is not half the reality. But the bounds of this volume are nearly reached, and all that can now be added must be limited to the plain statement of plain facts, for which no appropriate place has been found in the preceding pages. In this chapter, therefore, are gathered various scraps of information, not closely related, but all having some important bearing on the interests or the condition of New Bedford.

The financial standing of the municipality is indicated by the following tabular statement of the city debt:

Water bonds, 7s,	$140,000.00
Water bonds, 6s,	320,000.00
Water bonds, 5s,	100,000.00
Water bonds, 4s,	120,000.00
Bridge bonds, 6s,	10,000.00
Sewer bonds, 4s,	65,000.00
Sewer bonds, 3½s,	75,000.00
Improvement bonds, 6s,	223,000.00
Improvement bonds, 4s,	15,000.00
Improvement bonds, 3½s,	140,000.00
Bonds outstanding,	$1,208,000.00

The trust funds are as follows:		
Sylvia Ann Howland bequest,	$100,000.00	
George O. Crocker bequest,	10,000.00	
Library funds other than above,	4,100.00	
Cemetery funds for care of lots,	7,064.93	
Jonathan Bourne school fund,	1,000.00	$122,164.93
		$1,330,164.93
Temporary debt,		125,000.00
Total debt,		$1,455,164.93
Deduct from the last sum named:		
Balance of cash, January 7, 1889,	$32,196.88	
Amounts due from state,	7,230.00	
Taxes collectable,	19,700.00	
Sewer taxes due,	7,347.39	
Sinking funds,	52,897.77	119,372.04
Net debt January 7, 1889,		$1,335,792.89

The regular municipal appropriation bill of 1888 was as follows:

Appropriations, special of 1887,	$50,000.00
Cemeteries,	1,500.00
Commonwealth of Massachusetts, chapter 252 (soldiers' aid),	3,500.00
Discount for prompt payment of taxes,	10,000.00
Fire department,	30,500.00
Free public library,	5,400.00
Highways and streets,	77,000.00
Incidentals,	15,710.00
Lighting the streets,	27,000.00
New Bedford and Fairhaven bridge,	1,000.00
New Bedford water works,	12,000.00
Police department,	46,000.00
Poor department,	33,000.00
Public debt,	114,611.00
Public schools, incidentals,	22,000.00
Public schools, pay of teachers,	75,000.00
Public schools, repairs of buildings,	3,000.00
Repairs of city property,	5,000.00
Salaries,	13,990.00
Sewers, general account,	1,000.00
Sinking funds,	17,200.00
Truant school,	2,000.00
	$566,411.00
Less bonds issued,	50,000.00
	$516,411.00

The special appropriations of 1888 were:

Cemeteries,	$2,500.00
City stable and lot,	11,580.44

BRISTOL COUNTY COURT HOUSE, COUNTY STREET.

Engine house and lot, Durfee street,	$1,400.00
Fire department,	4,700.00
Harrington school house and lot,	38,264.56
Highway department,	5,500.00
Incidentals,	550.00
New Bedford and Fairhaven Bridge,	500.00
Police department,	8,900.00
Public schools,	10,000.00
Repairs of city property,	3,455.00
Sewers, construction and repairs,	55,173.20
	$142,523.20
Add general appropriations,	516,411.00
Total,	$658,934.20

The tax assessments of 1888 were levied as follows:

State tax,	$40,522.50
County tax,	41,274.10
City appropriations,	486,411.00
Overlay,	19,364.30
	$587,571.90

The rate of taxation was $17 on $1000.

Reference has already been made to some of the churches. Following is a complete list, with the location and the names of the pastors:

ADVENT. First. Foster street, corner of Kempton. William A. Burch, pastor.

BAPTIST. First. William street, west of Sixth. J. C. Hiden, D. D., pastor.
North. Corner of Merrimac and County streets. Henry C. Graves, D. D., pastor.
Salem. Sixth street, north of Union. Andrew Chamberlain, pastor.
Second. Middle street, west of Sixth. Randolph Hope, pastor.

CATHOLIC. St. Hyacinthe. Rivet street, west of County. In charge of Joseph A. Peyan, of the Church of the Sacred Heart.
St. James. This society has no church building, but services are held in the parochial school house, corner of Acushnet avenue and Wing street. James F. Clark, pastor.
St. John the Baptist. Fifth street, corner of Wing. A. G. Neves, pastor.
St. Lawrence. County street, corner of Hillman. Hugh J. Smythe, pastor.
Sacred Heart. Ashland street, corner of Robeson. Joseph A. Peyan, pastor.

CHRISTIAN. First. Purchase street, corner of Middle. William T. Brown, pastor.
Bonney street, corner of Sherman. Isaac H. Coe, pastor.
Middle street, head of Sixth. John McCalman, pastor.
Spruce street, corner of Smith. H. M. Eaton, pastor.

CONGREGATIONAL. Acushnet village. S. C. Bushnell, pastor.
North. Purchase street, corner of Elm. Albert H. Heath, D. D., pastor. The pastor has resigned, and will leave the church in March, 1889.
Trinitarian. Fourth street, corner of School. Matthew C. Julien, pastor.

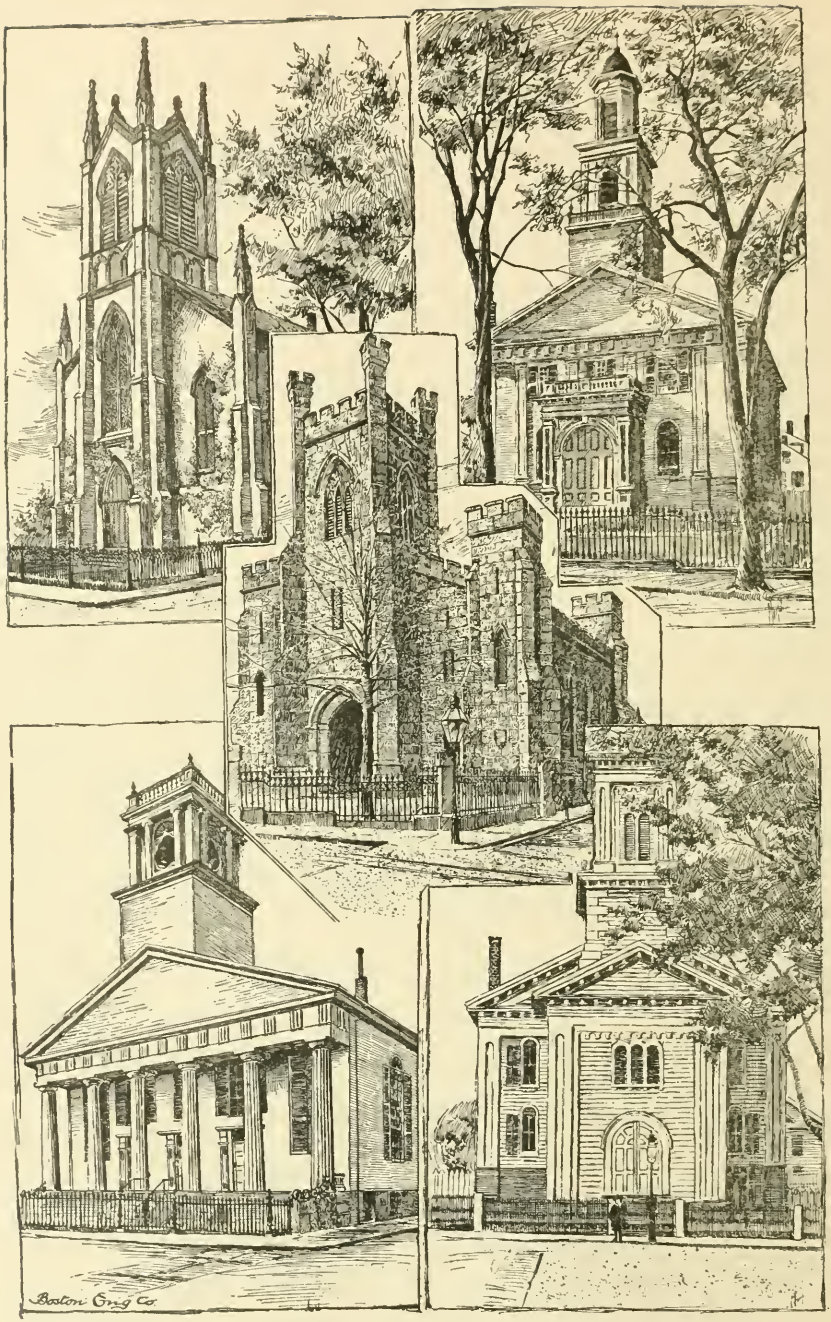
EPISCOPAL. Grace. County street, corner of School. George A. Strong, rector.
St. James. County, corner of Linden. Charles E. Barnes, rector.

Olivet. Fourth street, corner of Rivet. Alfred Evan Johnson, rector.
FRIENDS. Spring street, west of Sixth.
Fifth street, north of Russell. This house is rarely used.
METHODIST. Allen street, corner of County. Edward Williams, pastor.
Bethel (African). Kempton street. J. Wesley Skerrett, pastor.
County street, corner of Elm. Angelo Canoll, pastor.
Fourth street, between Madison and Walnut. Albert P. Palmer, pastor.
Pleasant street, corner of Sycamore. Matthias S. Kaufman, pastor.
Primitive. High street. J. L. Leith, pastor.
Zion (African). Elm street, west of County. J. Francis Robinson, pastor.
MISSIONS. City Mission chapel. South Water street. T. R. Dennison, missionary.
Cannonville. Services held by various clergymen.
Seamen's Bethel. Bethel street, between Union and William. Edward Williams is chaplain-elect.
PRESBYTERIAN. Has no church building. James Mitchell, pastor.
UNITARIAN (First Congregational). Union street, corner of Eighth. William J. Potter, pastor.
UNIVERSALIST. William street, east of Eighth. George T. Flanders, D. D., pastor.

Few cities surpass New Bedford in the number and variety of social, musical, and literary organizations. Some of these have already been mentioned. Among others which are prominent are the New Bedford Lyceum, an institution which has in the past been active in providing lectures and concerts for the public, but which for the present is doing little. The New Bedford Choral Association, organized in 1869, has had an honorable history, and has done much for music in New Bedford. The Rheinberger Club of singers, a newer organization, has much promise for the future. The German Sangerbund is also in a prosperous condition. With brass bands and orchestras the city is fully supplied, and some of these organizations are exceptionally good.

Of secret fraternal societies a great number has been formed. Following is a complete list, with places of meeting. In the list a few are included which do not come strictly under this classification :

MASONIC. Star in the East Lodge, F. & A. M. Masonic hall, Union street.
Eureka Lodge, F. & A. M. Masonic hall, Union street.
Union Lodge, No. 7, F. & A. M. (colored). Hall in Eddy building, Union street.
Adoniram Royal Arch Chapter. Masonic hall, Union street.
St. Mark's Chapter, No. 5, H. R. A. M. (colored). Hall in Eddy building, Union street.
Sutton Commandery, K. T. Masonic hall, Union street.
Thomas Dalton Commandery, No. 7, K. T. (colored). Hall in Eddy building, Union street.
J. W. Hood Chapter, Order of Eastern Star (colored). Hall in Eddy building, Union street.
ODD FELLOWS. Acushnet Lodge, No. 41, I. O. O. F. Odd Fellows' hall, corner of Purchase and William streets.



County Street Methodist Church. First Baptist Church.

First Congregational (Unitarian) Church.

Trinitarian Church. Middle Street Christian Church.

Vesta Lodge, No. 166, I. O. O. F. Waverly building, Fourth street.

Petomska Lodge, No. 1518, G. U. O. of O. F. (colored). Hall opposite post office, on Second street.

Loyal Alpha Lodge, No. 6463, I. O. O. F., M. U. China hall, Purchase street.

Annawan Encampment, No. 8, I. O. O. F. Odd Fellows' hall, corner of Purchase and William streets.

Grand Canton New Bedford, No. 15, P. M., I. O. O. F. Odd Fellows' hall, corner of Purchase and William streets.

Stella Lodge, No. 46, D. of R. Waverly building, Fourth street.

Household of Ruth, No. 282 (colored). Hall opposite post office, on Second street.

The Odd Fellows' Beneficial Association of Southern Massachusetts has its headquarters in this city.

The headquarters for the Fifth regiment, Patriarchs Militant, I. O. O. F., of which Lieut. Col. C. H. Holden, of New Bedford, is commander, is in this city.

Cambridge Patriarchie, No. 15, G. U. O. of O. F., New Bedford division (colored). Hall opposite post office, on Second street.

GRAND ARMY REPUBLIC. William Logan Rodman Post, No. 1. G. A. R. hall, Purchase street.

R. A. Pierce Post, No. 190. Knights of Honor hall, Union street.

R. G. Shaw Post, No. 146 (colored). Neptune hall, corner Market and Pleasant streets.

RED MEN. Potomska Stamm, No. 182 (German), Independent Order of Red Men. Germania house, North Second street.

New England Encampment, No. 19 (German), Independent Order of Red Men. Germania house, North Second street.

Sippican Tribe, No. 77, Improved Order of Red Men. Knights of Pythias hall, Purchase street.

KNIGHTS OF HONOR. New Bedford Lodge, No. 667. Knights of Honor hall, Union street.

Protection Lodge, No. 3144. Temperance hall, Hicks building, Purchase street.

KNIGHTS OF PYTHIAS. Union Lodge, No. 7, K. of P. Knights of Pythias hall, Wing building, Purchase street.

Carson Division, No. 10, U. R. K. of P. Knights of Pythias hall, Wing building, Purchase street.

GOOD FELLOWS. Prudential Assembly, No. 118, R. S. G. F. Knights of Honor hall, Union street.

ORDER OF THE IRON HALL. Local Branch, No. 195. China hall, Purchase street.

Local Branch, No. 297 (German). China hall, Purchase street.

TEMPLE OF HONOR. Pilgrim Temple, No. 33. Temperance hall, Hicks building, Purchase street.

Pilgrim Council, No. 7. Hicks building, Purchase street.

GOOD TEMPLARS. Orient Lodge, No. 173, I. O. G. T. China hall, Purchase street.

Liberty Lodge, No. 48, I. O. G. T. Temperance hall, Hicks building, Purchase street.

SONS OF TEMPERANCE. Acushnet Division, No. 87. Temperance hall, Hicks building, Purchase street.

NEW BEDFORD ORDER OF PROTECTION. Bay State Lodge, No. 59. Knights of Honor hall, Union street.

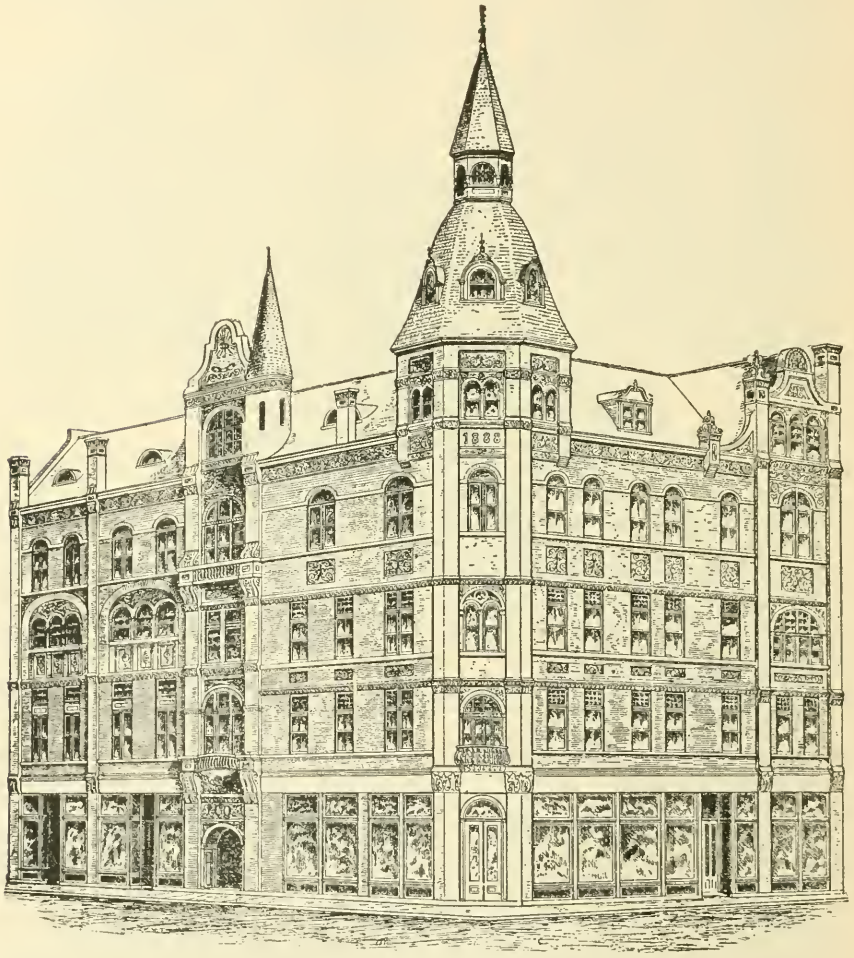
SONS OF ST. GEORGE. Gordon Lodge, No. 172. China hall, Purchase street.

Ancient Order of Foresters. Court Royal Oak, No. 6448. Spinners' hall, corner of Union and Water streets.

Ancient Order of Hibernians. Division No. 7. Neptune hall, corner of Pleasant and Market streets.

British American Association. Branch No. 5. China Hall, Purchase street.

Order of Elks. New Bedford Lodge, No. 73, B. P. O. Elks. Elks' hall, corner Union and Fourth streets.



PROPOSED ODD FELLOWS' BUILDING.

Union Veteran Legion. Encampment No. 10. G. A. R. hall, Purchase street.

Sons of Veterans. John A. Hawes Camp, No. 35, Division of Massachusetts. G. A. R. hall, Purchase street.

Woman's Relief Corps. William Logan Rodman Woman's Relief Corps, No. 53. G. A. R. hall, Purchase street.

Loyal Knights and Ladies. Court Themis. Knights of Honor hall, Union street.

Knights and Ladies of Honor. Sterling Lodge, No. 1222. Temperance hall, Hicks building, Purchase street.

Legion of Honor. New Bedford Council, No. 816. A. L. of H. Temperance hall, Hicks building, Purchase street.

United Endowment Associates. Pioneer Lodge, No. 16. Knights of Honor hall, Union street.

Order of United Friends. Washington Council, No. 121. China hall, Purchase street.

United Order of Pilgrim Fathers. British Colony, No. 29. China hall, Purchase street.

Royal Arcanum. Omega Council, No. 683. Knights of Honor hall, Union street.

Labor Organizations. Local Branch, No. 17, American Flint Glass Workers' Union. Neptune hall, corner of Market and Pleasant streets.

Glass Cutters' Union. Ward room on Sherman street.

New Bedford Branch of the New England Lasters' Union. Neptune hall, corner of Pleasant and Market streets.

Edge Makers' Union. Homes of members.

Level Union, No. 409, United Brotherhood of Carpenters and Joiners. China hall, Purchase street.

Spinners' Union. Spinners' hall, corner of Union and Water streets.

Miscellaneous Societies. New Bedford Printers' Benefit Association. Bancroft house, Union street.

Provision Clerks' Association. Y. M. C. A. rooms, William street.

St. Lawrence Catholic Temperance Society. Neptune hall, corner of Market and Pleasant streets.

Socialist Club. Edgerton hall, corner of Linden and Purchase streets.

Parnell Branch, Irish National League. Neptune hall, corner of Market and Pleasant streets.

New Bedford Literary Association. Neptune hall, corner of Market and Pleasant streets.

New Bedford Society for Medical Improvement. At the homes of members.

Ladies' Independent Association (auxiliary to R. A. Pierce Post, 190). Masonic building, Union street.

New Bedford Firemen's Beneficial Association. Central engine house, Purchase street.

Bread, Cake, and Cracker Bakers' Beneficial Association. China hall, Purchase street.

L'Union Ouvriere (French). Over Edgerton's hall, Purchase street.

Club of French Naturalization. Wamsutta hall, Purchase street.

Cesko Slovanky Podporujici Spolek, No. 85 (Bohemian). Bohemian hall, Bowditch street.

Young Men's Total Abstinence & Beneficial Society. No. 137 Union street.

Rose of Sharon Beneficial Society (colored). Salem Baptist church, Sixth street.

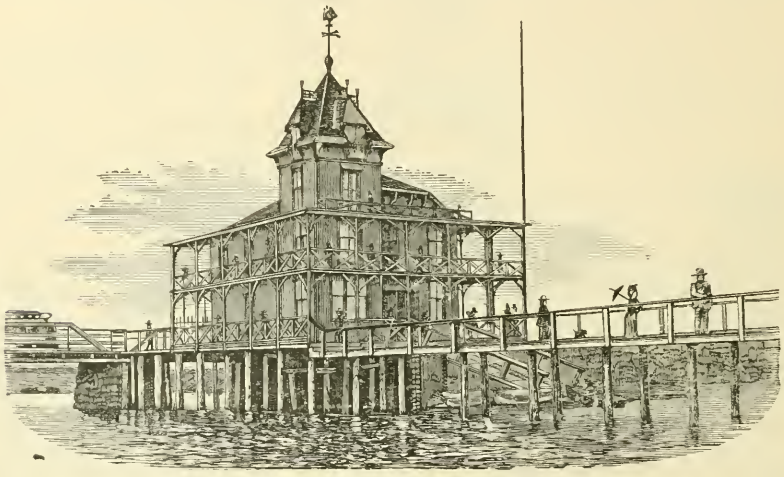
Young Men's Protestant Temperance and Benevolent Society. Hall over Boston store, Purchase street.

Firemen's Mutual Aid Society. Central engine house, Purchase street.

Natural History Associates.

High School Alumni.

The Wamsutta Club, a flourishing social organization of gentlemen, occupies pleasant rooms in the Masonic building on the north side of Union street, west of Purchase. Nearly opposite, in Ricketson block, is the attractive home of the Dartmouth Club, composed chiefly of young business men. The South End Athletic Club has rooms on Union street. This club combines the social with the physical in its scheme of operation. The Plymouth Club has headquarters in Music Hall. The "Chronometer Club" is the name applied to a group of retired whaling captains, who daily gather at rooms in the Robeson building, where they mingle with stories of the deep ani-



NEW BEDFORD YACHT CLUB HOUSE.

mated discussions of current topics. But their number is decreasing now.

The state militia is now represented by the City Guards, which is known officially as Co. E of the First Regiment of Massachusetts Infantry. This company has a long and honorable history, and at this day is in a state of unexceptional efficiency. Its captain is William Sanders and its first and second lieutenants are Richard H. Morgan and Arthur E. Perry. The French Zouaves is a company composed of young French residents, and is not connected with the state militia. Its captain is Dr. L. Z. Normandin.

A military company of pupils of the High school has been in existence for several years under the title of The High School Cadets. The company is now commanded by John Holt. The course of instruction for the boys in the school now includes the military drill.

The South Bristol Farmers' Club has its winter meetings in this city, though its members include residents of all the adjoining towns. Its membership is large and active, and it has done a good work for agriculture in the southern part of Bristol county. Its annual fairs are second only to those of the Board of Trade. Hon. A. Franklyn Howland is the president.

Eleven schooners, thirty-two sloops, one steamer, and one yawl are now enrolled in the New Bedford Yacht Club. Its attractive house on the south side of the New Bedford and Fairhaven bridge is a favorite resort for the members and their friends during the summer. The waters of the river and bay are peculiarly adapted to the pleasures of yachting, and it is not surprising that the club is a vigorous organization. Its officers are :

Commodore—Richard H. Morgan.
Vice commodore—Edgar B. Hammond.
Rear commodore—Nathaniel Hathaway.
Secretary—John W. Nickerson, Jr.
Treasurer—E. Stanley Wills.
Measurer—Henry F. Hammond.
Directors—James A. Barnes, Horace Wood, John C. Rhodes, Benjamin H. Anthony, Albert W. Holmes, Richard S. Taber, William N. Church, Jr., George M. Crapo, George W. Parker, Edward M. Whitney, Lewis S. Richardson.

The city has the telegraphic service of the Western Union Telegraph Company, with an office at the southeast corner of Water and Centre streets; of the Postal Cable Telegraph Company, with an office at No. 4 North Second street; and of the Mutual Union Telegraph Company, with an office at the northwest corner of William and North Second streets.

The Southern Massachusetts Telephone Company, which controls the telephone system of this section of the state, has its headquarters in New Bedford. Its president is Charles W. Clifford, its treasurer, Samuel Ivers, and its manager, Moses E. Hatch. In New Bedford about seven hundred fifty telephones are in use.

Express facilities are furnished by Hatch & Company's line, which was established in 1840 by Col. A. D. Hatch and is one of the oldest express companies in the country; and by Allen's New York & Boston express. The former is now running in connection with the New York and Boston Despatch Express Company, and it is the only company that forwards express matter on passenger

trains. The New England Despatch Company also has an office; William H. Thing is manager.

The Union Street Railway Company, which controls all the street railway track in the city, is the result of a consolidation of two rival corporations. Its tracks reach every section of the city, and its cars make frequent trips in every direction. Lines run to Fairhaven and to Acushnet village, and in the summer cars are run to Woodlawn grove, located on Clark's point. The capital stock of the corporation is $260,000, and the officers are:

President — Samuel C. Hart.
Treasurer — Andrew G. Pierce.
Clerk — Charles H. Gifford.
Directors — The above and Jonathan Bourne, William W. Crapo, Weston Howland, J. Arthur Beauvais, Charles E. Cook, Abbott P. Smith.

The New Bedford post office does a larger business than is usual in places of the size of New Bedford. Its receipts for the year 1888 were $42,296.86. During that period the letter carriers handled 4,693,664 pieces of mail matter. The money order transactions amounted to $190,224.74. The working force of the office includes the postmaster, assistant postmaster, nine clerks, sixteen letter carriers, and two substitute letter carriers. Albert H. W. Carpenter is the present postmaster.

In spite of the decline of whaling, the port of New Bedford is still the scene of great activity, and it is true that the tonnage of vessels arriving and departing in a year far exceeds that of the palmiest days of the whaling industry. Records kept at the custom house show that during the year 1888 the number of arrivals at this port was as follows:

Ships	1
Barks	13
Brigs	2
Schooners	809
Sloops	29
Barges	210
Steamers	708
	1772

The total tonnage of these vessels was 564,363 tons. The list does not include yachts or fishermen. The largest item in the coastwise business at present is the coal trade, which has been referred to in another part of this volume.

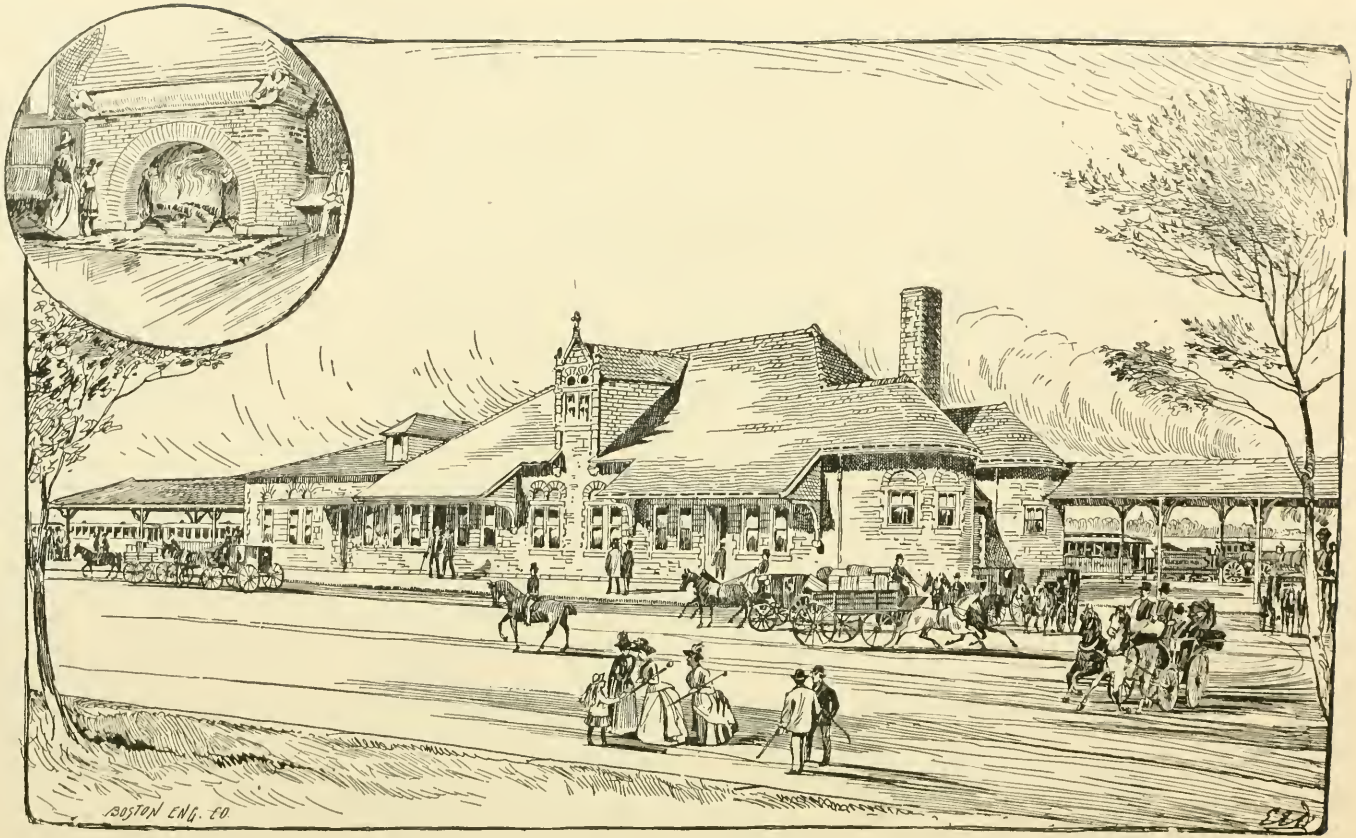
New Bedford now has in the foreign trade one ship, of 822.19 tons, three barks, aggregating 2795.79 tons, and two schooners, together measuring 360.65 tons. Her coasting fleet is divided as follows:

	Number.	Tonnage.
Steamers,	10	2925.11
Schooners,	40	7048.82
Sloops,	13	143.28

There are also fifteen fishing schooners, aggregating 363.28 tons, and twenty-two fishing sloops, whose united tonnage is 210.17 tons.

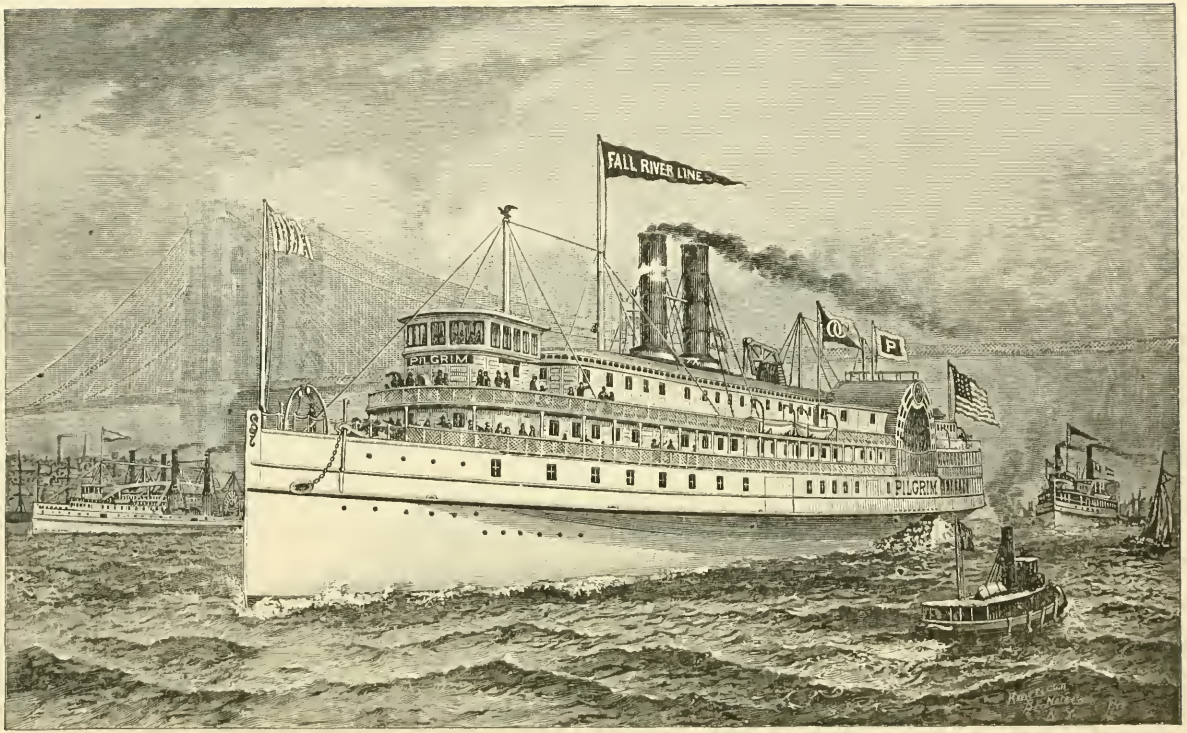
As a last word about the growth of New Bedford, it may be said that good judges anticipate an increase of five thousand in the population in the next two years, as a result of the new manufacturing enterprises that are now assured.

The approaches to New Bedford are by both land and water, railroad and steamboat lines uniting to render transportation to and from her limits pleasing and effective. The railway service is entirely by the Old Colony railroad system: but so numerous are the routes, so thorough the establishment, and so complete the provision, that it would really seem that no possible, or practicable, avenue of approach has been overlooked or ignored. Passengers from New York, Boston, Providence, and the vast regions of country that must make these centres their gateways in visiting localities in southeastern Massachusetts, find railroad lines arranged with direct reference to New Bedford as a terminal point; while the summer resorts of New England —the White mountains, the Maine seashore and inland, Mount Desert and Campobello, the eastern shores of Massachusetts, Plymouth and the Old Colony, Newport and its surroundings, etc.—have each a special service in connection with this city, designed to meet the demands of her interests, and which ministers directly to the business, economic, and domestic departments of her existence. The water service of the New Bedford, Martha's Vineyard, and Nantucket Steamboat Company is in the way of connecting the city intimately with Woods Holl, Martha's Vineyard, and Nantucket, and in the summer time furnishing the most delightful excursions, that are at the same time transportation agencies, along the southern Massachusetts shores, over the waters most attractive and interesting in her neighborhood, and among scenes and to points that have become famous throughout the length and breadth of the land. The com-



OLD COLONY PASSENGER STATION.

pany has four fine boats constantly in service during the summer, and the facilities for making excursions from New Bedford are excellent. This city has also direct water communication with New York, a freighting steamer of the Old Colony Steamboat Company (New Bedford line) plying constantly between the two ports via Long Island sound, thus securing first class freight transportation at the lowest rates and by shortest route, and facilities that she may call peculiarly her own, since they are established and maintained to minister to her wants alone. By railroad one may reach or leave New Bedford by three separate and distinct routes, all branches or feeders of the Old Colony system, as outlined in the sentences preceding this. The Fall River branch connects this city with Fall River, a short piece of road (fourteen miles) running through Westport and Dartmouth villages, and of great utility, both as a passenger and freighting line. Besides, connection is had with Fall River over the branch running from that city via Myricks; and connecting with direct line between New Bedford and Taunton. The steamboat trains of the Fall River line from Boston run via Taunton and Weir Junction to Fall River, and the Northern division of the Old Colony system, that connects the same with Framingham, Lowell, Fitchburg, and the White mountain region, forms junction with the system south of Boston, also at Taunton; and being continued therefrom via Myricks to the seacoast, finds terminus in New Bedford. Approaching the city by rail from the eastward, a branch leaves the Cape Cod division of the Old Colony system at Tremont, and passing through Marion and Mattapoisett has a terminus in Fairhaven, opposite New Bedford; and from the Fairhaven station the communication is of the shortest, by bridge and street cars, or the ordinary methods of city transportation. The Northern division of the Old Colony railroad, practically a continuation of the line which, leaving New Bedford as a starting point, passes via Taunton to South Framingham, Lowell, etc., crosses the Boston & Providence railroad at Mansfield. An available route for Boston passengers to and from New Bedford is via Mansfield and the Boston & Providence tracks to the station of that railroad in Boston. Passengers for New York via the Fall River line may avail themselves of either of the three routes to Fall River indicated above, according to their desires as to time of arrival in Fall River; and the same may be said of travel to



STEAMER PILGRIM OF THE OLD COLONY LINE.

Newport from New Bedford. In summer time the coasts and watering places from Newport, R. I., away round to Portsmouth, N. H., are within reach of New Bedford of a morning; and it is almost literally true that one may leave this city by a morning train and visit any place within the above mentioned limits and return to his starting place before bedtime of the same day. The Mattapoisett and Marion shores, Onset and Onset bay, the Buzzards bay shores, Monument and Falmouth villages, Woods Holl, Martha's Vineyard, Nantucket, all the shore points and towns, outer and inner, of Cape Cod, Plymouth, and Duxbury, the South Shore, Cohasset, Hingham, and Nantasket beach, and all the north shore with its wealth of scenery and associations, certainly come within this possibility. All the localities thus included are to be reached by rail from New Bedford, and the round trip made in a single day, except the islands referred to; and the steamboat service which brings them within reach is so thorough and adequate that the passenger may visit them and return also within the sunlight hours of a single day. Modern methods of travel have indeed annihilated space, and with all these beautiful scenes and situations within, as it were, a stone's throw of this city, there is small need to insist that New Bedford herself, in her immediate surroundings and approaches, is possessed of advantages and attractions of the highest order. Yet such truly is the case. Wherever a glimpse even of her unrivalled water views can be obtained by the passenger approaching her outskirts, the result of enthusiastic delight is sure to ensue; and if these glimpses can be multiplied, — as they are in many of the railroad situations, — or broadened into varying extended outlooks, — as takes place upon any of the water approaches, and often upon the land routes, — the pleasure is deepened and the attractiveness of the place becomes a permanent feature. There are some grand old woods, too, in the New Bedford neighborhood, and landscape presentations often including these, which are of fairest qualities. The drives about this city are among and through these scenes; and mankind has occupied, and his hand has reclaimed and beautified and artistically built upon their sites, so that all roads and routes leading hitherward are full of interest, while they are also beneficent establishments for human needs. The service by these railroad and steamboat lines is designed to meet every want of this city connected with the department of

transportation. Trains of every kind are frequent and timely, and run upon a basis of knowledge of the situation which long experience has supplied. Facilities increase as the just call for them is extended, and by land and water no city is better served than New Bedford.

WHARF SCENE.

Hathaway, Soule & Harrington
Campello Factory
New Bedford Factory
Middleboro Factory
MANUFACTURERS OF
MENS' SHOES.
STORES:
280 DEVONSHIRE STREET, BOSTON.
126 & 128 DUANE STREET, NEW YORK.

NEW BEDFORD

MASSACHUSETTS

Leading Industrial and Financial

ENTERPRISES

THE

MERCHANTS NATIONAL BANK,

OF NEW BEDFORD,

56 NORTH WATER STREET.

UNITED STATES DEPOSITORY.

Incorporated, 1825.

CAPITAL STOCK, - - - $1,000,000

SURPLUS FUND, - - - $500,000

OFFICERS:

PRESIDENT,
JONATHAN BOURNE.

CASHIER,
H. C. W. MOSHER.

DIRECTORS,

JONATHAN BOURNE,	ANDREW HICKS,
GEORGE F. BARTLETT,	WILLIAM R. WING,
GEORGE F. KINGMAN,	SAMUEL C. HART,
THOMAS H. KNOWLES,	GILBERT ALLEN,
FRANCIS B. GREENE,	WILLIAM N. CHURCH,
GEORGE S. HOMER,	JAMES DELANO.

Discount Days, Tuesdays and Fridays.

BANK HOURS, 9 to 1.

THE FIRST NATIONAL BANK,

NEW BEDFORD, MASS.

(Formerly Marine Bank.)

CAPITAL, - - - - $1,000,000

SURPLUS, - - - - $200,000

DIRECTORS,

LEM'L KOLLOCK, EDW. S. TABER,

ABRAM T. EDDY, WM. BAYLIES,

W. P. WINSOR, EDW. T. PIERCE,

WM. WATKINS, HUMPHREY W. SEABURY,

T. M. STETSON, SAVORY C. HATHAWAY,

MATTHEW LUCE.

WM. WATKINS, *President.*

W. P. WINSOR, *Cashier.*

GEO. B. HATHAWAY, *Teller.*

WM. A. MACKIE, *Book-keeper.*

FRANK B. CHASE, *Discount Clerk.*

CHAS. T. SMITH, *Collection Clerk.*

W. S. HUNT, *Messenger.*

THE

Mechanics National Bank

Reorganized in 1864 from the Mechanics Bank.
Incorporated in 1831.

CAPITAL STOCK, - - - $600,000
SURPLUS, - - - - $225,000

OFFICERS.

PRESIDENT,
WM. W. CRAPO,

VICE PRESIDENT,
ANDREW G. PIERCE.

CASHIER,
JAMES W. HERVEY.

ASS'T CASHIER,
LEMUEL T. TERRY.

DIRECTORS,

WM. W. CRAPO,
ANDREW G. PIERCE,
JOHN R. THORNTON,
JIREH SWIFT,
THOMAS WILCOX,
HORATIO HATHAWAY,
LOUM SNOW,
EDWARD D. MANDELL,
E. WILLIAMS HERVEY,
EDWARD KILBURN,
HENRY C. DENISON.

Discount Days, Wednesdays and Saturdays.

BANK HOURS, 9 a. m. to 1 p. m.

LOCATION,
No. 62 NORTH WATER STREET,
FOOT OF WILLIAM.

THE
NATIONAL BANK OF COMMERCE,

OF NEW BEDFORD.

No. 37 North Water Street.

UNITED STATES DEPOSITORY.

Incorporated in 1803.
Reorganized in 1864.

CAPITAL, = = $1,000,000

OFFICERS.

PRESIDENT,
FRANCIS HATHAWAY.

VICE PRESIDENT,
W. C. N. SWIFT.

CASHIER,
JAMES H. TALLMAN.

DIRECTORS,

FRANCIS HATHAWAY,
WM. C. N. SWIFT,
HENRY TABER,
WM. J. ROTCH,
CHARLES W. CLIFFORD,
WM. A. ROBINSON,
FREDERICK SWIFT,
OLIVER PRESCOTT,
CHARLES W. PLUMMER,
WALTER CLIFFORD,
MORGAN ROTCH,
OTIS N. PIERCE,
JOSEPH F. KNOWLES,
WILLIAM D. HOWLAND,
MANLY U. ADAMS.

Discount Days, Mondays and Thursdays.

Bank Hours, from 9 a. m. to 1 p. m.

THE

Citizens National Bank,

No. 38 North Water Street.

CAPITAL, $500,000.

SURPLUS AND PROFITS, $150,000.

Transacts a general Banking Business and solicits the accounts of Banks, Corporations, and Individuals.

Fire and Burglar Proof Vault with Safe Deposit Boxes for the use of customers.

Executes orders for Investment Securities. Coupons and Dividends collected without charge.

DIRECTORS,

J. A. BEAUVAIS, FRED. S. POTTER,
JOHN P. KNOWLES, OLIVER P. BRIGHTMAN,
WM. J. KILBURN, DAVID B. KEMPTON,
CHARLES TUCKER, CYRENIUS W. HASKINS.

J. A. BEAUVAIS, President. E. S. BROWN, Cashier.

Sanford & Kelley,

Bankers, Brokers, and Stock Auctioneers,

47 North Water Street, New Bedford, Mass.

Members Boston Stock Exchange. INVESTMENT SECURITIES A SPECIALTY.

Sole agents for New Bedford and vicinity, for the sale of the

Lombard Investment Company's First Mortgage Guaranteed Loans.

This company is the Oldest, Strongest, and most Reliable doing Western Loan business in the United States. Thirty million dollars of loans sold, more than one half of which has become due and been promptly paid. Guaranty about $3,000,000.

Private wire connecting our office with New York and Boston.

Auction sale of Stocks and Bonds Saturdays, at 10.45 A. M.

ESTABLISHED 1829.

W. A. ROBINSON & CO.,

Sperm and Whale Oil,

SPERM CANDLES, OIL SOAP, ETC.

Also, Commission Merchants and Dealers in Lard, Red, Paraffine, and Coal Oils; Potato, Wheat, and Corn Starch; Cotton Goods, &c.

No. 10 SOUTH WATER ST., PROVIDENCE, R. I.

—AND—

No. 144 SOUTH WATER ST., NEW BEDFORD, MASS.

The New Bedford Safe Deposit & Trust Co.

61 WILLIAM STREET, COR. ACUSHNET AVENUE.

FIDELITY.

President,
Charles E. Hendrickson.

Cashier,
Edmund W. Bourne.

Directors,
Charles E. Hendrickson,
William D. Howland,
Abbott P. Smith,
Benjamin F. Brownell,
Savory C. Hathaway,
Lot B. Bates,
Stephen A. Brownell,
Standish Bourne,
Frederic Taber,
John W. Macomber,
Lemuel LeB. Holmes,
George C. Hatch.

SECURITY.

Paid up Capital, $100,000.

Authorized Capital, $500,000.

TRANSACTS A GENERAL BANKING BUSINESS SAME AS ANY NATIONAL BANK.

NOTES DISCOUNTED. COLLECTIONS MADE ON ALL AVAILABLE POINTS.

COMMENCED BUSINESS JUNE 28, 1888.

OPEN SATURDAY EVENINGS FROM 7.30 TO 9 O'CLOCK.

BANKING DEPARTMENT.

Money received on deposit subject to check on presentation. Exchange on New England, New York, the West, and California. Interest allowed on daily balances WITHOUT LIMIT and credited monthly. Invites the accounts, great or small, of Banks, Bankers, Corporations, Municipalities, Town Treasurers, Manufacturers, Firms, Individuals and those acting in any official or trust capacity, and will be pleased to meet or correspond with any who may contemplate making changes or opening new accounts. Legally authorized to receive and hold money or property in trust or on deposit from executors, administrators, assignees, guardians, etc.

DISCOUNT DAYS MONDAYS, WEDNESDAYS, AND FRIDAYS AT 9 A. M.

Apartment exclusively for Ladies, also a public room for Gentlemen.

Banking Hours 9 A. M. to 2 P. M. and 4 to 5 P. M. ☞Saturdays, 9 A. M. to 2 P. M. and 7.30 to 9 P. M.

SAFE BIND SAFE FIND

SAFE DEPOSIT DEPARTMENT.

SAFE BIND SAFE FIND

CHARLES M. HUSSEY, MANAGER.

The vaults of this company are positively fire, burglar, and mob proof and guarded night and day. In the vaults are individual safe deposit boxes for rent to parties wishing absolute security for their valuables. Price $10 to $100 per annum, according to size. Less time at less rates. These boxes require the master-key and the presence of the Manager of the safe deposit apartment as well as the renter to open. One cannot without the other. Patrons may remove and replace their boxes as often as desired during business hours. Separate "coupon" rooms for ladies and gentlemen, which are strictly private and free and provided with desks, writing materials, etc., etc. Storage department for furs, silver ware, laces, papers, books and all kinds of valuables at very low rates. A cordial and general invitation extended to either sex to call during business hours and examine our safe and rooms. Business hours 9 A. M. to 2 P. M. and 4 to 5 P. M. Saturdays 9 A. M. to 2 P. M. and 7.30 to 9 P. M.

We particularly call the attention of families who during the summer months are closing their houses and leaving the city to our admirable facilities for the safe custody of plate and other valuables in our impregnable fire, burglar, and mob proof vaults. Charges low.

A SOLID INVESTMENT.

Exclusive agency for Southern Massachusetts for the sale of the

6% DEBENTURE BONDS and 7% GUARANTEED FARM LOANS

of the Union Investment Co., Kansas City, Mo. Paid up capital $1,000,000, mostly Eastern stockholders. These bonds are secured by *1st liens of real estate at 2 1-2 times their amount* deposited with American Loan & Trust Co., Boston. The Farm Loans are secured in the same manner. Issued and for sale in sums of $100 and upwards, at par and accrued interest. Coupons cashed *free* by us. We have personally and carefully examined these properties and manner of negotiating and confidently believe them to be A SAFE AND PROFITABLE INVESTMENT

JOS. TILLINGHAST. GEO. N. ALDEN.

FIRE INSURANCE AGENCY OF

TILLINGHAST AND ALDEN

48 NORTH WATER STREET.

Successors to the late Joseph S. Tillinghast.

Agency Established in 1835.

American & Foreign Companies Represented.

Business respectfully solicited and policies issued at this office in the following named companies for which we are the duly authorized agents:

Ætna Ins. Co.,	Hartford	Hartford Fire Ins. Co.,	Hartford
Connecticut Fire Ins. Co.,	Hartford	Meriden Fire Ins. Co.,	Meriden
Springfield Fire & Marine Ins. Co.,	Springfield	Ins. Co. of North America,	Philadelphia
Fire Association,	Philadelphia	Home Ins. Co.,	New York
Continental Ins. Co.,	New York	German American Fire Ins. Co.,	New York
Niagara Fire Ins. Co.,	New York	Hanover Fire Ins. Co.,	New York
Williamsburg City Fire Ins. Co.,	New York	American Ins. Co.,	Newark
Equitable Fire & Marine Ins. Co.,	Providence	Merchants Ins. Co.,	Providence
No. British and Mercantile Ins. Co.,	London	Guardian Assurance Co.,	London
Phœnix Assurance Co.,	London	Queen Ins. Co.,	Liverpool
Imperial Fire Ins. Co.,	London	City of London Fire Ins. Co.,	London
Fitchburg Mutual Fire Ins. Co.,	Fitchburg	Dorchester Mutual Fire Ins. Co.,	Boston

LAWRENCE GRINNELL. JOSHUA C. HITCH.

LAWRENCE GRINNELL & CO.,

FIRE AND MARINE, LIFE, AND PLATE GLASS

INSURANCE,

60 North Water St., foot of William,

OVER MECHANICS NATIONAL BANK. NEW BEDFORD.

Agents for the following named first class companies:

Liverpool and London and Globe Insurance Co.	Of Liverpool	British America Assurance Co.	Of Toronto
American Fire Insurance Co.	New York	Prescott Insurance Co.	Boston
Royal Insurance Co.	Liverpool	Hamburg-Bremen Fire Insurance Co.	Bremen
Providence Washington Ins. Co.	Providence	Northern Assurance Co.	London
Commercial Union Assurance Co.	London	Spring Garden	Philadelphia
Merchants Insurance Co.	Newark	North American	Boston
Traders Insurance Co.	Chicago	Mutual Life Insurance Co.	New York
		Lloyds' Plate Glass Insurance Co.	New York

A. M. BROWNELL. J. H. MURKLAND.

Brownell & Murkland,

Contractors, Builders, & Granite Dealers,

MILL AND HEAVY BUILDING A SPECIALTY.

Curbing, Cellar, & Dimension Stone.

OFFICE,

Liberty Hall Building, Room 8,

NEW BEDFORD, MASS.

SAMUEL H. COOK,

Marine & Fire Insurance

AGENT AND BROKER,

No. 37 North Water Street (in National Bank of Commerce Building),

NEW BEDFORD, MASS.

WHALING RISKS AND THEIR CATCHINGS A SPECIALTY AT THIS AGENCY.

The following first class Fire Insurance Companies are represented, viz:

Hingham Mutual Fire Insurance Co., Hingham.

The Liberty Insurance Co.	New York	London Assurance Corporation,	London, Eng.
Phœnix Insurance Co.	Hartford	London & Lancashire Insurance Co.	London
National Fire Insurance Co.	Hartford	Norwich Union Fire Insurance Society,	England
Phœnix Insurance Co.	Brooklyn, N. Y.	New Hampshire Fire Ins. Co.	Manchester, N.H.
Pennsylvania Fire Insurance Co.	Philadelphia	Westchester Fire Insurance Co.	New York
American Fire Insurance Co.	Philadelphia	Commerce Insurance Co.	Albany, N. Y.

The Metropolitan Plate Glass Insurance Co. of New York.

NOTARY PUBLIC. JUSTICE OF THE PEACE.

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NEW BEDFORD BOILER AND MACHINE CO.,

JOSEPH S. LEWIS. HENRY A. HOLCOMB, Treas.

MANUFACTURERS OF

BOILERS AND MACHINERY

OF EVERY DESCRIPTION.

Repairing of all kinds promptly attended to.

WASTE, MACHINE BOLTS, LAG SCREWS, BOLT ENDS, AND RUBBER STEAM PACKING CONSTANTLY ON HAND.

STEAM HEATING AND FITTINGS.

24 FRONT STREET,

NEW BEDFORD, MASS.

ESTABLISHED 1847.

CHARLES TABER & CO.,

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SALESROOM, 28 BOND ST., NEW YORK.

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ARTOTYPE ENGRAVINGS,

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NEW BEDFORD COPPER CO.

MANUFACTURERS OF

Yellow Metal and Copper

SHEATHING,

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COPPER.

Copper Rollers for Calico Printers.

YELLOW METAL BOLTS

AND CUT NAILS, ETC.

NEW BEDFORD, MASS.

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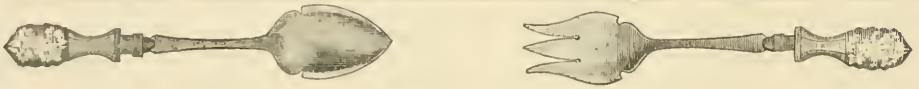
WM. J. ROTCH, Pres.

A. SNOW, Jr., Treas.

MT. WASHINGTON GLASS CO.

F. S. SHIRLEY, AGENT.

New Bedford, Mass., U. S. A.



Rich Cut Glassware,
Crystal Chandeliers,
Chemical Glassware,
Philosophical Glassware.

Fine Decorated Shades and Lamps,
Gas & Electric Shades, Globes, etc.
Electric Bulbs, Tubes, and
General Supplies for Electrical Uses.

The Celebrated Burmese Ware,
Rose Amberina Ware,
Peach Blow Ware,
Pearl Satin Ware.

CHARLES F. BORDEN,

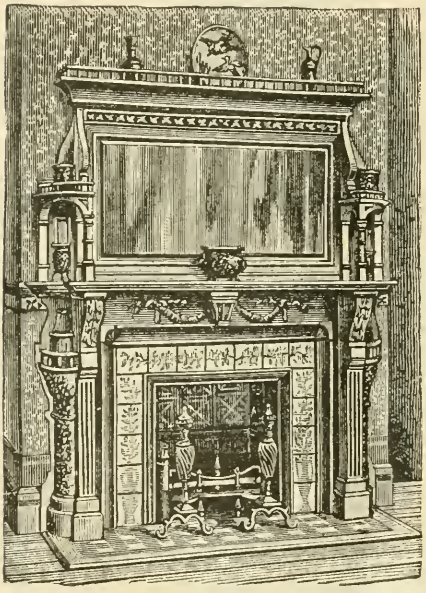
Pattern and Model Maker.

ALSO, MANUFACTURER OF THE

TREMONT-TURBINE WATER WHEEL,

Which for cheapness, durability, and power, we know of no wheel that equals.

Gearing, Shafting, Iron & Wood Pulleys.



House and Cottage Trimmings. Store Fronts, Counters, and Wall Cases.

Bank Counters and Desks

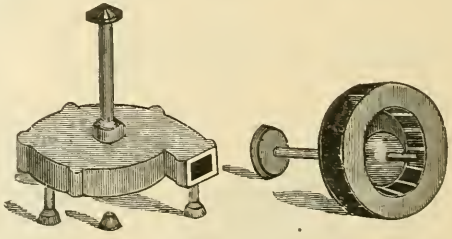
Carving, Planing, Jig Sawing, and Turning in all its branches.

Wooden Mantels a specialty in soft or hard Wood.

Also, Book Cases, Side Boards, Wash Stands, and Furniture of all kinds.

Stair Builders' Supplies: Newells, Balusters, and Rails on hand and made to order.

Plans for the above specialties furnished at short notice. Estimates given and satisfaction guaranteed in every case.



STONE BUILDING, SECOND FLOOR,

Cor. of So. Water and Coffin Sts., NEW BEDFORD, MASS.

GREENE & WOOD,

DEALERS IN

ALL KINDS OF LUMBER,

SPRUCE, HEMLOCK, PINE, &c.

In large variety. Also an assortment of YELLOW PINE TIMBER, PLANK, STEPPING, AND FLOORING.

We carry a good stock of HARD WOOD LUMBER for inside finish, and with our new improved HOT BLAST DRY KILN, we can furnish the choicest KILN DRIED MOULDING AND FLOORING.

OUR PLANING MILL

Recently destroyed by fire, has been entirely rebuilt and very much enlarged, and with NEW MACHINERY we are prepared to do all varieties of

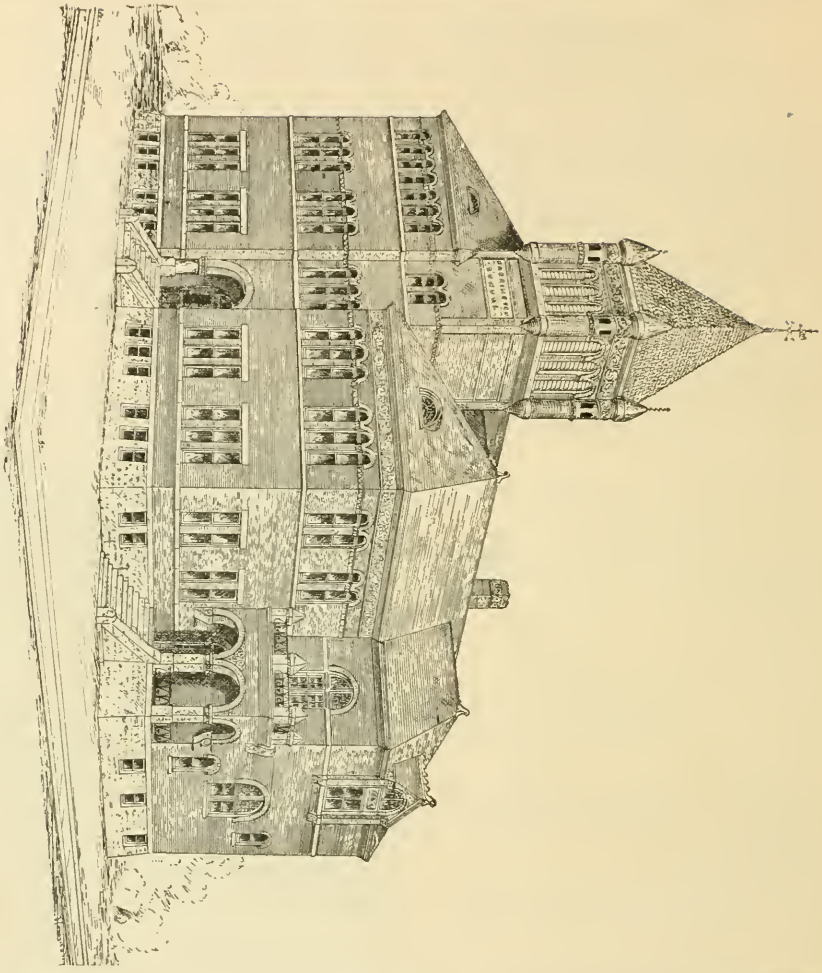
PLANING, MOULDING, SAWING, AND TURNING.

SPOOLS AND BOBBINS.

GREENE & WOOD are again prepared to make all kinds of SPOOLS AND BOBBINS for cotton and woolen mills and rope works.

A new mill and the very latest improved machinery afford the best facilities for good work and prompt delivery.

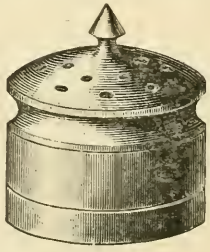
HARRINGTON SCHOOL, Built by SAMUEL C. HUNT, Carpenter, Contractor, and Builder. Office, 41 William St., corner North Second. Residence, 7 Maitland St. Telephone, 217-5.



L. A. LITTLEFIELD,

MANUFACTURER OF

Fine Silver Plated PEPPER, Salt and Mustard Caps, SUGAR SIFTER TOPS,



Fine Silver Plated NON-DRIP Syrup Jug Tops, Bitter Tubes, NOVELTIES, &c.

Factory, Tallman's Block, 134 Union Street - - NEW BEDFORD, MASS.

PAIRPOINT MFG. CO.

E. D. MANDELL, Pres't. T. A. TRIPP, Agt. and Treas.

FINE

GOLD & SILVER PLATE.

For sale by Leading Jewellers throughout the country.

Re-plating and Repairing

EXECUTED BY SKILLED MECHANICS.

Factory, Prospect Street, - New Bedford, Mass.

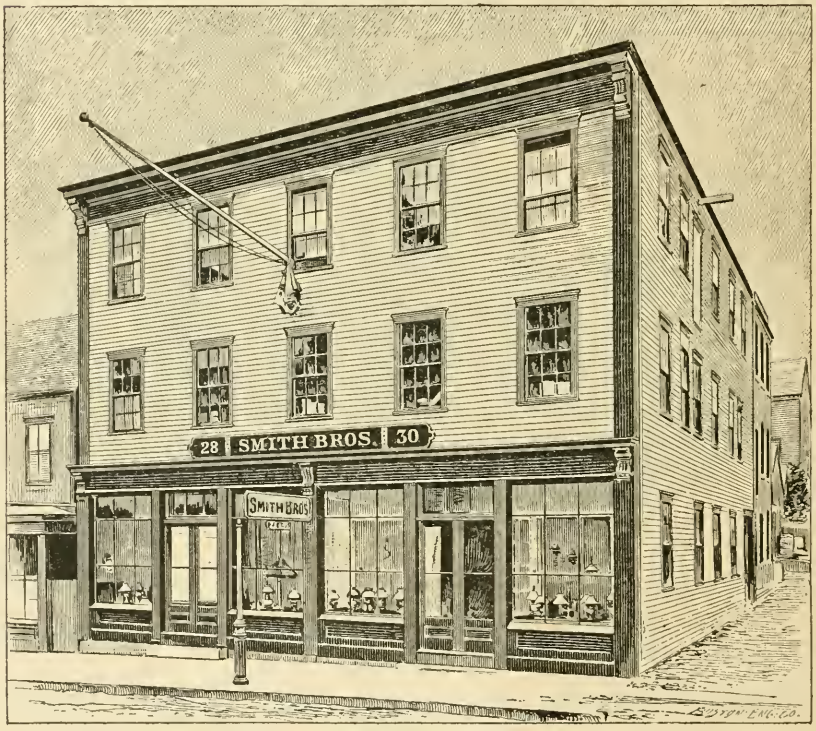
WAREROOMS:

At Factory.
20 Maiden Lane, New York.
90 and 92 Wabash Avenue, Chicago, Ill.
220 Luther Street, San Francisco, Cal.
Sydney, Australia.

SMITH BROS.

A. E. SMITH. H. A. SMITH.

Fine Decorated Glassware



SPECIALTIES:

SHADES OF EVERY DESCRIPTION, VASES IN GREAT VARIETY, PLAQUES, TILES, SALTS, MUSTARDS, MUFFINEERS, LAMP GOODS, &C.

Works and Show Rooms, 28 and 30 William St.,

NEW BEDFORD, MASS.

DENISON BROS.,

FLOUR!

GRAHAM FLOUR, MIDDLINGS, CORN,

Meal, Oats, Fine Feed, Shorts, Etc.

—ALSO—

Dealers in Hay and Straw.

NO. 100 SOUTH WATER ST.,

AND FOOT OF HILLMAN STREET,

JOHN H. DENISON.
HENRY C. DENISON.

NEW BEDFORD, MASS.

THOS. M. HART & CO.,

Sail Makers and Ship Chandlers.

THOMAS M. HART.
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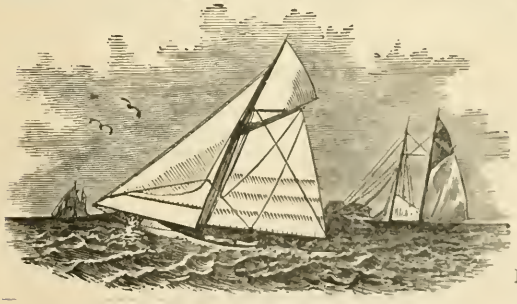

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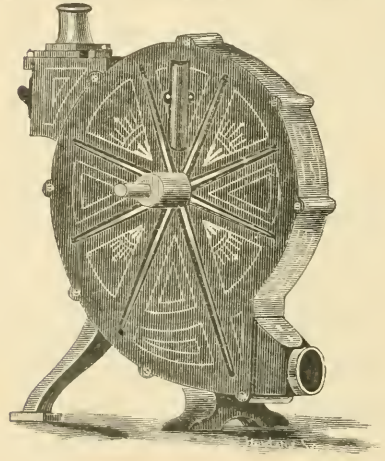

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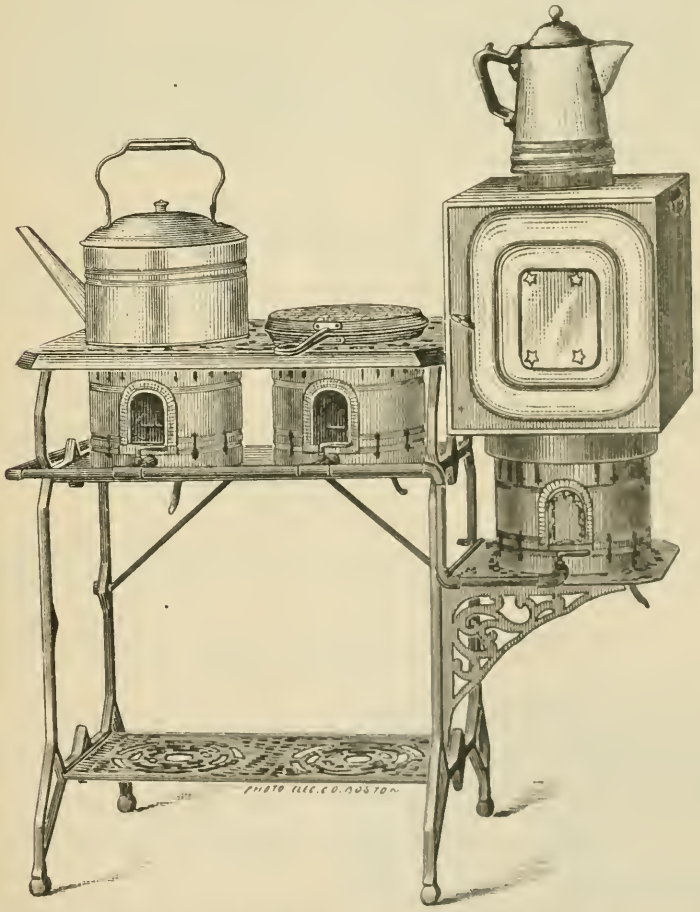

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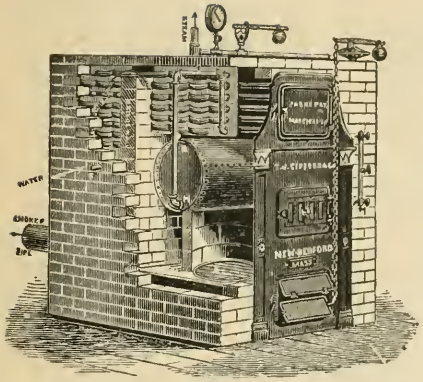

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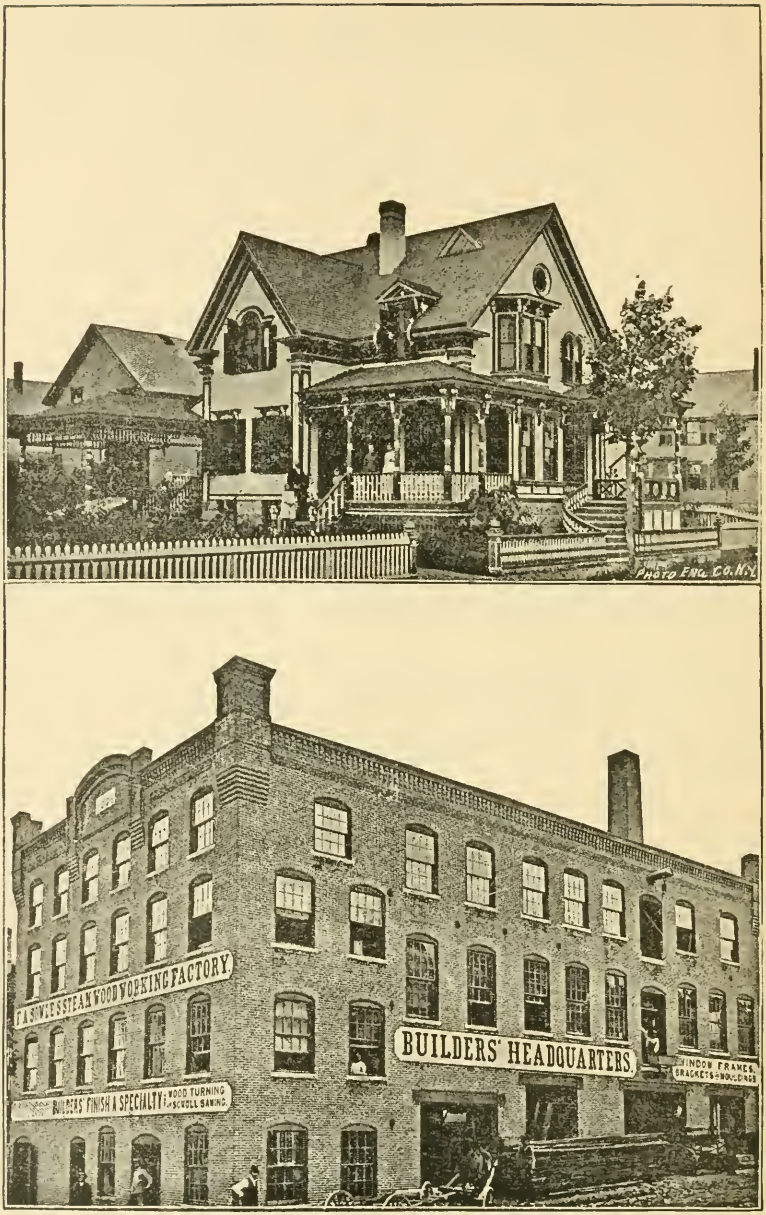

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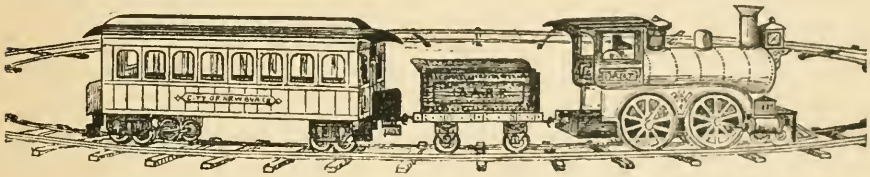

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